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Abstract

This study attempted to discover the nature and extent of the diversity of characteristics of persisting and non-persisting students both within and among 5 state universities in Wisconsin. The sample consisted of all full-time freshmen during 1965-66 at the institutions (N=7010). Students who either withdrew during the year or did not return for the 1966-67 year (non-persisting students), were divided into those who withdrew for academic reasons and those who withdrew for non-academic reasons. The results indicated that there were significant differences between both male and female persisting and non-persisting students (all) on the basis of planned educational major, vocational choice, vocational role preference, educational aspirations, number of changes in academic major, place of college residence, and size of high school graduating class. Previous high school achievement and ACT scores tended to be discriminate variables between male and female and among the persisting, non-persisting (academic), and non-persisting (non academic) students both within and among campuses. College achievement in terms of GPA, credits attempted, and credits earned, appeared to differentiate both male and female persisting and non-persisting students (all) both within and among campuses. Continued research is necessary if institutions hope to decrease attrition rate. (DS)

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DIVERSITY OF INTELLECTIVE AND NON-INTELLECTIVE CHARACTERISTICS BETWEEN PERSISTING AND NON-PERSISTING STUDENTS AMONG CAMPUSES

April 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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April 1968

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U.S. DEPARTMENT OF
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PREFACE

The Consortium on Research Development in Wisconsin involves five state universities which are located at Stevens Point, Whitewater, LaCrosse, Menomonie, and River Falls. A purpose of the Consortium is to assist in the promotion of inter- and intra-institutional research within and among the faculty of these campuses on a cooperative basis.

This report represents the initial research project supported by the Consortium in conjunction with the U. S. Office of Education, Department of Health, Education, and Welfare.

The investigator would like to thank the many students, faculty, and administrators on the five Wisconsin State University campuses whose assistance and cooperation made the completion of this investigation possible.

The investigator wishes to especially thank Mr. Donald Benz, Wisconsin State University-Stevens Point, Mr. William Webster, Wisconsin State University-River Falls, Mr. Sam Wood, Stout State University-Menomonie, Mr. John Prentice, Wisconsin State University-Whitewater, and Mr. John Jenks, Wisconsin State University-LaCrosse, who served as Project Directors on each of their respective campuses and who contributed voluntarily many long hours toward the development of the investigation and the collection of the data. Without their valuable assistance, this investigation would not have been possible.

The investigator would like to extend a special acknowledgment to Mr. John Storlie, Director of the Data Processing Center, Wisconsin State University-LaCrosse, who volunteered many hours of his own time as well as that of his center toward the development and completion of the processing of the data of this investigation.

The investigator would like to extend his gratitude and appreciation to Dr. William H. Clements and the other coordinators for the Consortium on Research Development for their continuous assistance and support throughout the investigation.

The investigator would like to thank the U. S. Department of Health, Education, and Welfare under whose grant this research was conducted.

Special thanks are extended to Mrs. Marcia Swan for her assistance in preparing the many drafts and the final report of this study.

INTRODUCTION

Every year thousands of high school graduates enroll in colleges and universities across the nation as entering freshmen but, at the end of that year, a substantial portion of these students have withdrawn from their respective institutions. These non-persisting students have been the concern of many publics.

The desirability of education is a deep commitment in American society. When a student does not persist in a selected college or university, society's immediate reactions tend to be that the individual has sacrificed his own future, misappropriated personal and institutional resources, and probably detracted from the welfare of the nation. Many people tend to feel that those students who leave the academic scene prior to completion of the four years will become inextricably and permanently immersed in an ever increasing pool of underdeveloped resources. The contention seems to be that the non-persisting student serves as a drain for the optimal development, conservation, and utilization of human resources which will serve to provide a sound base for societal progress.

The college or university tends to take a critical view of the non-persisting student because of perceived economic implications for the institution. These economic implications tend to complement and supplement the college and university's acceptance of the society's goals for the optimal development of human resources. Educators within the college or university exhibit great concern over the non-persisting student since reduction in the full-time enrollment tends to have ramifications for the use of residence halls, libraries, and classrooms. The non-persisting student is of concern to educators in public institutions since a reduction in enrollment may precipitate severe limitations to continued expansion since such growth tends to be related to the number of students enrolled. The parents of students tend to take an extremely negative point of view of those persons who do not persist in college. They tend to regard the non-persister as a failure and probably perceive him as an object which represents unfulfillment of many dreams of achievement and many long years of struggle and sacrifice. This parental attitude may be poignant particularly in a college or university where the vast proportion of the student population are first generation college students.

The attitude of the non-persisting student toward himself tends to be an amalgamation of the reactions of the society, the institution, and his family towards his decision of non-persistence. The process of making a decision to withdraw from the university is often coupled with strong feelings of anxiety resulting from the predisposed attitudes of those around him. The negative attitudes which are reflected frequently by society and members of the college or university tend to formulate tremendous pressure on the student, resulting in severe impairment of the ability to progress in effective decision-making.

All of these factors have tended to make the problem of retention and withdrawal of college students an active and persistent topic of investigation. The literature related to the retention and withdrawal of college students tends to be extremely extensive. The status of research on the university dropout has been reviewed by Knoell (1960) and Summerskill (1962).

According to Knoell, there have been four major types of studies which have focused on the retention and withdrawal of college students. She indicated that these were:

(1) the census study, which serves primarily to establish base line data for particular institutions or states;

(2) the "autopsy study" which attempts to identify the reasons for attrition by asking the dropouts questions at the time they withdraw;

(3) the case study approach, often used by admissions officers and others whose concerns are decisions about students rather than research; and

(4) prediction in which admission variables are related to success and failure in college, including the dropout (6:64-65).

Summerskill's review of the literature tended to reveal conflicting evidence in findings of the various studies which examine such factors as academic ability, personal motivation and adjustment, biological and social variables, and finances as these may be related to college or university persistence. He tended to indicate that academic factors such as previous high school achievement and performance in college and finances tend to be the most consistent variables related to persistence in a college or university. The role of socio-economic status of parents, high school size and location, and personal or social adjustment of the student in connection with persistence in colleges and universities is ill-defined (10:627-657).

Any review of the literature of reported studies in the field of the university dropout tends to reflect a paucity of studies focused on the characteristics of students among institutions and the relationship of these traits to academic persistence. A vast majority of the research investigations have used an intra-institutional design. There seems to be an obvious gap in data of inter-institutional comparisons of persisting and non-persisting students.

Pervin, Reik, and Dalrymple (9) have indicated that a definite factor in the concerns of the college dropout and the utilization of talent may reside in the interaction of the individual and the institution. In essence, they seem to be in agreement with Kauffman when he made the statement:

> It may be more important to concern ourselves with the most effective means of entering the higher educational process and making the wisest possible decisions at the entry point so long as we continue to allow maximum flexibility and opportunity for the individual student (5).

The crux of the issue seems to be this: All colleges and universities cannot be all things to all people. Institutions of higher education have given only informal recognition to this in the past. Historically, the college and the student have differentially appraised one another as to the mutual benefits that can be gained from any union. Such appraisals have not always been on rational grounds. Greater rationality seems to be called for in the decisions that must be made in the future. Formal acknowledgement of such rationality seems to be called into contention by the focus on the university dropout.

The issue of the educational sorting process--by the individual as well as by the institution--may not be relegated solely to an intramural perspective. In those states where there is a system of university education, there should be a system of inter-university analysis.

The major implication of such a concept seems to be that the student in a state-wide system of higher education may have several choices of campuses within such a system. All campuses may not serve his particular needs equally. In this vein the alternatives may not be unlike those he had when he assessed the potentialities of various colleges and universities while in high school. In either instance, within the high school or within the college, the choice could be regarded as one of selecting the institutional setting that would afford maximal development. Definitive knowledge of the characteristics of persisting and non-persisting students on the various campuses of state universities within a coordinated system would serve to aid the evaluating process performed by the students and campus officials.

The concerns of society, institutions, parents, and students were linked inextricably to this investigation. The non-persisting student may contribute to the drain of developed human resources within the nation. The non-persisting student may precipitate severe limitations for institutional expansion, particularly in a coordinated system of higher education such as the one that exists in the state university system that was a part of this investigation. The non-persisting student may be faced with a parental perception of his failure, particularly in some of the schools investigated, because of an enrollment of a high proportion of "first generation" students. The possible personal concerns of the non-persisting student are legitimate concerns for any educator who accepts the concept that a premise in the educational process is the facilitation of effective and efficient decision-making.

Purpose of the Study

The purpose of this study was to seek out the nature and extent of the diversity of the characteristics of persisting and non-persisting students within and among the various campuses of a state university system. Specifically, the study attempted to discern what diversity of measured scholastic aptitude existed on the various campuses within a state university system. Also, the study attempted to assess what diversity existed in non-intellective factors of persisting and non-persisting students who were enrolled on these various campuses. Finally, the study attempted to serve as an initial study in a comprehensive assessment of the university dropout within and among the various campuses of selected state universities.

Statement of the Problem

The problem for this study can best be stated in question form within the basic areas of the investigation.

Within the area of scholastic aptitude, the following questions were postulated: What is the nature and extent of the diversity of measured scholastic aptitude of persisting and non-persisting students within and among the various campuses? Are there significant differences among persisting and non-persisting male and female students on the various campuses with regard to scholastic aptitude?

Within the area of high school achievement, the following questions were developed: What is the nature and extent of the diversity of previous high school achievement of persisting and non-persisting students within and among the various campuses? Are there significant differences among persisting and non-persisting male and female students with regard to previous high school achievement?

The following question was formulated with respect to university achievement: Are there significant differences among persisting and non-persisting students among campuses on the basis of credits attempted, credits earned, and average grade points achieved?

With regard to non-intellective characteristics of persisting and non-persisting students, the following questions were postulated: Is there a significant disproportionality among male and female students with respect to persistence in college? Is there a significant disproportionality among persisting and non-persisting students with respect to change in academic major? Is there a significant disproportionality among persisting and non-persisting students with respect to the place of residence in college? Is there a significant disproportionality among sizes of high school graduating classes with respect to persistence in college?

Other questions which were postulated regarding characteristics of persisting and non-persisting students were: Is there a significant disproportionality among persisting and non-persisting students with respect to indicated educational major? Is there a significant disproportionality among persisting and non-persisting students with regard to indicated vocational choice? Is there a significant difference among persisting and non-persisting students with respect to indicated vocational role preference? Is there a significant difference among persisting and non-persisting students on the basis of indicated educational plans?

Research Hypotheses

In formulating the null hypotheses tested, the term "compared groups" refers to the subgroups of persisting (P), academic non-persisting (NPA), and non-academic non-persisting (NPO) students.

The following null hypotheses were tested:

(1) There are no significant differences in measured scholastic aptitude among the compared groups of students.

(2) There are no significant differences in measured scholastic aptitude of persisting students among the five campuses.

(3) There are no significant differences in measured scholastic aptitude of academic non-persisting students among the five campuses.

(4) There are no significant differences in measured scholastic aptitude of non-academic non-persisting students among the five campuses.

(5) There are no significant differences in measured scholastic aptitude between male and female persisting students.

(6) There are no significant differences in measured scholastic aptitude between male and female academic non-persisting students.

(7) There are no significant differences in measured scholastic aptitude between male and female non-academic non-persisting students.

(8) There are no significant differences in average grade achieved in high school among the compared groups of students.

(9) There are no significant differences in average grade achieved in high school of persisting students among the five campuses.

(10) There are no significant differences in average grade achieved in high school of the academic non-persisting students among the five campuses.

(11) There are no significant differences in average grade achieved in high school of the non-academic non-persisting students among the five campuses.

(12) There are no significant differences in average grade achieved in high school between male and female persisting students.

(13) There are no significant differences in average grade achieved in high school between male and female academic non-persisting students.

(14) There are no significant differences in average grade achieved in high school between male and female non-academic non-persisting students.

(15) There are no significant differences in the number of university credits attempted among persisting and non-persisting students among the five campuses.

(16) There are no significant differences in the number of university credits earned among persisting and non-persisting students among the five campuses.

(17) There are no significant differences in the number of university grade points achieved among persisting and non-persisting students among the five campuses.

(18) There are no significant differences in the number of male and female students among compared groups of students.

(19) There are no significant differences among the sizes of high school graduating classes among the compared groups of students.

(20) There are no significant differences among the places of residence in college of the compared groups of students.

(21) There are no significant differences among the compared groups of students with respect to change in academic major.

(22) There are no significant differences among the compared groups of students in terms of educational major.

(23) There are no significant differences among the compared groups of students in terms of vocational choice.

(24) There are no significant differences among the compared groups of students in terms of vocational role preferences.

(25) There are no significant differences among the compared groups of students in terms of educational aspirations.

Definition of Terms

The term persisting student referred to any student who has completed the academic year in the anticipated sequential order without interruption. For the purpose of this study, the persisting student was the student who completed the 1965-66 academic year and who was enrolled as a sophomore in the fall semester of 1966.

The term non-persisting student referred to any student who either officially or unofficially withdrew from the universities investigated and interrupted the anticipated sequential order of academic progression. For the purpose of this study, the non-persisting student was the student who did not complete the 1965-66 academic year and who did not enroll for the sophomore year in the fall of 1966.

The term academic non-persister (NPA) referred to any student who voluntarily or involuntarily withdrew from the university because of academic reasons.

The non-academic non-persisting student (NPO) referred to any student who either voluntarily or involuntarily withdrew from the university for reasons other than academically related concerns.

The term scholastic aptitude referred to the sub-scores achieved by each student in the sample on the American College Testing Program (ACT). The terms English, Mathematics, Natural Science, Social Science, and Composite referred to the various sub-scales of the American College Testing Program.

The term non-intellective characteristics referred to the scores on the student characteristic sub-scales of the American College Testing Program (ACT).

The terms Educational Major, Vocational Choice, Vocational Role Preferences, Educational Role Preferences, and Most Important Goals in College referred to the specific sub-scales in this section of the American College Testing Program (ACT).

The term pre-matriculation data referred to the data obtained on all students from the various sub-scales of the American College Testing Program prior to their actual enrollment in any of the five universities.

The term post-matriculation data referred to the data obtained on all students after they had been enrolled in the various colleges investigated.

The term credits attempted referred to the total number of credits attempted on a semester basis by the persisting and non-persisting students on each of the campuses investigated.

The term credits earned referred to the number of credits on a semester basis by persisting and non-persisting students on each of the five campuses investigated.

The term grade points referred to the total number of grade points achieved by persisting and non-persisting students on each of the five campuses investigated.

Delimitation of the Problem

This investigation was confined to five state universities of Wisconsin. The state universities involved were as follows: Wisconsin State University-Stevens Point, Wisconsin State University-Whitewater, Wisconsin State University-LaCrosse, Wisconsin State University-River Falls, and Stout State University.

The student sample for this study was confined to those students who enrolled on a full-time basis as freshmen in the fall, 1965, on the five campuses selected for this study.

This study was delimited to an analysis of the variance of scholastic aptitude and non-intellective characteristics of students enrolled on the five campuses selected for this investigation.

Limitations of the Problem

The study was limited to the extent that it reflected only those characteristics of the student groups sampled at the time of the investigation. Because of the constant flow of students enrolled, subsequent studies will need to be done in order to insure a reliable and valid estimate of the characteristics of persisting and non-persisting students among the five campuses.

The study was limited to the extent that the American College Testing Program (ACT) and the post-matriculation data are suitable measures of scholastic aptitude, achievement, and non-intellective characteristics, respectively. The study was limited also to the extent that errors may have been introduced in the administration of the instruments and the collection of the post-matriculation data.

The study was limited to the extent that the definition of persisting and non-persisting students fails to distinguish between students dropping out for differing reasons, such as health, personal, disciplinary, or financial reasons.

The study was further limited to the extent that it tends to fail to distinguish between students who withdraw during the middle of the year and those who complete the first year, both of whom do not enroll during the sophomore year.

Finally, the investigation was limited to the extent that there was no distinction made between voluntary and non-voluntary withdrawals.

METHODOLOGY

Selection of Sample

The total student sample of this study consisted of students who were enrolled on the five campuses on a full-time basis and were classified by university standards as freshmen for the 1965-66 academic year. Essentially, the total student sample consisted of the entire freshman class of 1965-66, for whom *ACT* scores were available in the five state universities which participated in the investigation.

The sampling procedure used was chosen for the following reasons: the study concerned itself with the diversity of student characteristics between persisting and non-persisting students within and among the various campuses of the state universities. Since the entire freshman class needed to be surveyed in order to identify the subsamples of persisting and non-persisting students, the entire freshman population of the five universities was used instead of other sampling procedures.

The 1965-66 freshman class was selected because of the availability of intellective and non-intellective pre-matriculation data. Prior to the 1965-66 academic year, some of the institutions investigated had not requested the collection and analysis of non-intellective data on their freshman classes. The sampling was delimited to the 1965-66 year in order to assure uniformity of data.

All the institutions investigated participated in the post-enrollment analysis provided by the *American College Testing Program* for the entering freshman class during 1965-66. The *American College Testing Program* provided each university a listing of all students who had responded to the *American College Testing Program* during 1964-65, and who had subsequently enrolled in each of the institutions investigated. Each of the five project directors on the campuses participating in this study then subdivided the total sample into three groups--persisting, academic non-persisting, and non-academic non-persisting students.

The principal investigator realized that the two subgroups of non-persisting students masked certain data. For example, by pooling all non-persisting students who either voluntarily or involuntarily withdrew from the university for reasons other than academic concerns, the specific reason for the withdrawal, i.e., health, financial, or discipline, could not be identified. However, the investigator felt that the objectives of the study were exploratory and the purposes of investigation would be satisfied through such pooling techniques. The same rationale was applied to the academic non-persister.

Collection of the Data

The data collected for analysis in this study were from either the *American College Testing Program* (*ACT*) which was completed by each student prior to entering into one of the five institutions investigated or from data obtained from the students' cumulative folder maintained by each of the participating schools.

In order to approximate a standardization of the collection of data, several meetings were established with all five project directors. These meetings were particularly important to the collection of the post-matriculation data. During these meetings, the principal investigator indicated the general nature and purpose of the research being conducted and emphasized the need for uniformity of data on all students in order to facilitate comparative analysis.

The most difficult aspect of this portion of the investigation was to identify data on all students which was available at all institutions. Even though there was considerable agreement among all institutions with regard to the type of data collected on all students, the methods of collection, retention, and retrieval of such data varied widely. Consequently, the time necessary for the completion of the collection of all post-matriculation data from each of the five institutions investigated was prolonged. In each instance, the registrar's office on each campus was the source of information for all post-matriculation data on persisting and non-persisting students.

Each project director on each of the participating campuses collected and subgrouped the data on the persisting and non-persisting students. These data were analyzed by the principal investigator.

Scoring of the Data

The scoring of the pre-matriculation data was done by the scoring service at the Measurement Research Center, Iowa City, Iowa. This scoring service is the only means of scoring the ACT. The authors of the instrument will not release, under any circumstances, the scoring templates. The scoring service does provide the IBM cards on which the scores are reported. Both raw scores and percentile scores are reported.

The scoring service provided the initial analysis of the persisting and non-persisting subgroups of students on all scales of the ACT. The scoring service did not provide comparative analysis among the five institutions investigated.

The compilation of the post-matriculation data for the persisting and non-persisting subgroups was done by the Data Processing Center at Wisconsin State University-LaCrosse, LaCrosse, Wisconsin.

Coding of the Data

In order to minimize possible errors in coding of the post-matriculation data, all coding of data was done by the project directors on each of the campuses. All coding was checked several times to insure that there were no errors or omissions in coding.

All of the data were coded according to a standardized coding form which had been developed by the principal investigator. All project directors were intimately aware of the rationale and procedure to be employed in the coding process.

Statistical Treatment of the Data

The main objective of the study was to investigate differences among persisting and non-persisting students among various state university campuses on the basis of their scores on tests of intellective and non-intellective characteristics. With the purpose of determining differences between and among groups and the significance of these differences, Chi Square and Student's "t" test of significance were applied to the data. The analysis of variance model was utilized to test differences among students among campuses.

All final comparative analysis and statistical treatment of data was done at Wisconsin State University-Stevens Point by the principal investigator and the staff of the Office of Institutional Research.

RESULTS

The main objective of this study was to seek out the nature and extent of the diversity among persisting and non-persisting students enrolled on the campuses of five state universities. Students who were enrolled on a full-time basis as freshmen during the 1965-66 academic year on the campuses of the five state universities were subgrouped according to their persistence in school. These subgroups of persisting and non-persisting students were compared on the basis of scores on a test of scholastic aptitude, previous high school achievement, university achievement, selected personality attributes, and various personal-biographical data which were developed as a result of their enrollment in each of the five schools investigated.

The data obtained from this investigation are presented in three general categories which will be discussed in the following sequence:

(1) the diversity of persisting and non-persisting students in terms of scholastic aptitude;

(2) the heterogeneity among persisting and non-persisting students in terms of previous high school achievement and college performance;

(3) the multiformity among persisting and non-persisting students in terms of selected personal-biographical data. The personal-biographical data included the factors of sex, college residence, size of high school graduating class, changes in declared academic major, educational major, vocational choice, vocational role preferences, and educational plans.

Since there were very few variables which did not discriminate among persisting and non-persisting students among campuses, all results of the investigation will be presented.

Analysis of Scholastic Aptitude

A purpose of the investigation was to seek out differences among persisting and non-persisting students on the basis of scholastic aptitude. The total student sample had participated in the American College Testing Program (ACT). The scores on the various sub-scales of the ACT were used as the estimate of the scholastic aptitude of the persisting and non-persisting student.

The statistical treatment of analysis of variance was used for testing differences among the compared groups of students. If any of the variance ratios exceeded the value required for significant differences to be accepted at the 0.05 level of confidence, Duncan's New Multiple Range Test was applied to the data to determine which mean(s) were contributing to the significant F ratio (3:167-176). Where the F ratio proved to be significant, the results of the application of Duncan's New Multiple Range Test are reviewed immediately following the appropriate analysis of variance table. In each case where the application of Duncan's New Multiple Range Test was used, the shortest significant ranges were computed at the same level of confidence as indicated by the related variance ratio.

The interpretation of Duncan's New Multiple Range Test is as follows: Any two means appearing together within the same subset, i.e., underscored, are not significantly different. Any two means not appearing in the same subset are significantly different.

In the discussion of these results the following abbreviations will be used for the categories of persisting and non-persisting students:

Persisting student - P

Academic non-persisting student - NPA

Non-academic non-persisting student - NPO

Table 1 presents the F ratios for the differences among persisting and non-persisting students on all campuses on the basis of mean scores on the ACT scales. As indicated in Table 1, there were highly significant differences found among persisting and non-persisting students on all campuses on all scales of the ACT test.

TABLE 1. DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT SCALES

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	5359	2	2679.5		
	Within grps	118500	7006	16.9	158.5	0.001
	Total	123859	7008			
Mathematics	Between grps	9943	2	4972.0		
	Within grps	215737	7006	30.6	161.5	0.001
	Total	225680	7008			
Social Science	Between grps	7452	2	3726.0		
	Within grps	174099	7006	24.8	149.9	0.001
	Total	181551	7008			
Natural Science	Between grps	5624	2	2812.0		
	Within grps	175313	7006	25.0	112.4	0.001
	Total	180937	7008			
Composite	Between grps	6965	2	3482.0		
	Within grps	102708	7006	14.7	237.5	0.001
	Total	109673	7008			

The results of the application of Duncan's New Multiple Range Test to the differences among persisting and non-persisting students on the ACT-English scale are presented in Table 2. As Table 2 shows, three distinct subsets of means were formed which tended to be significantly different from each other.

TABLE 2. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-ENGLISH SCALE

Persistence	Means	NPA (N = 1186)	NPO (N = 1584)	P (N = 4233)	Shortest significant ranges
		17.1	18.9	19.5	
NPA	17.1	------	1.8 (57.24)*	2.4 (103.20)*	R_2 = 19.13
NPO	18.9		------	0.6 (28.80)*	R_3 = 19.72
P	19.5			------	
		NPA	NPO	P	

*Significant at the 0.001 level

Based on these results, persisting students, regardless of campus, tended to achieve a significantly higher mean score on the ACT-English scale than either of the two non-persisting student subgroups. Students who did not persist because of academic reasons, regardless of campus, seemed to reflect a significantly lower mean score on the ACT-English scale than persisting students or students who did not persist because of non-academic reasons.

Table 3 presents the results of Duncan's New Multiple Range Test applied to the differences among persisting and non-persisting students on all campuses on the basis of mean scores on the ACT-Mathematics scale. According to these results, there were three significantly different subsets formed.

These results seemed to indicate that persisting students, regardless of campus, tended to make significantly higher mean scores on the ACT-Mathematics scale than did either of the two non-persisting student subgroups. The academic non-persisting subgroup, regardless of campus, tended to achieve a significantly lower mean score on the ACT-Mathematics sub-scale than did either the persisting or non-academic non-persisting student.

TABLE 3. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-MATHEMATICS SCALE

Persistence	Means	NPA (N = 1186)	NPO (N = 1584)	P (N = 4233)	Shortest significant ranges
		18.1	20.0	21.3	
NPA	18.1	------	1.9 (60.42)*	3.2 (137.60)*	$R_2 = 25.74$
NPO	20.0		------	1.3 (62.70)*	$R_3 = 26.53$
P	21.3			------	
		NPA	NPO	P	

*Significant at the 0.001 level

Table 4 presents the results of the application of Duncan's New Multiple Range Test applied to the differences among persisting and non-persisting students on all campuses on the basis of scores on the ACT-Social Science scale.

As Table 4 indicates, there were three significantly different subsets formed. These results tended to indicate that persisting students, regardless of campus, tended to achieve a significantly higher mean score on the ACT-Social Science scale than either of the non-persisting student subgroups. The non-academic non-persisting student subgroup, while being significantly lower than the persisting student sample, tended to be significantly higher on the basis of mean score achieved on the ACT-Social Science scale.

Table 5 indicates the differences among persisting and non-persisting students on all campuses on the basis of the ACT-Natural Science scale following the application of Duncan's New Multiple Range Test.

The results presented in Table 5 tended to indicate that the academic non-persisting student tended to achieve a significantly lower mean score on the ACT-Natural Science scale than either the persisting or non-academic non-persisting student subgroups. Furthermore, the persisting student subgroup tended to achieve a significantly higher mean score than either of the non-persisting student samples.

TABLE 4. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-SOCIAL SCIENCE SCALE

Persistence	Means	NPA (N = 1186)	NPO (N = 1584)	P (N = 4233)	Shortest significant ranges
		19.4	21.2	22.2	
NPA	19.4	------	1.8 (57.20)*	2.8 (43.00)*	R_2 = 23.22
NPO	21.2		------	1.0 (47.90)*	R_3 = 23.94
P	22.2			------	
				P	
			NPO		
		NPA			

*Significant at the 0.001 level

TABLE 5. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-NATURAL SCIENCE SCALE

Persistence	Means	NPA (N = 1186)	NPO (N = 1584)	P (N = 4233)	Shortest significant ranges
		19.8	21.2	22.2	
NPA	19.8	------	1.4 (44.50)*	2.4 (103.20)*	R_2 = 23.27
NPO	21.2		------	1.0 (47.90)*	R_3 = 23.99
P	22.2			------	
				P	
			NPO		
		NPA			

*Significant at the 0.001 level

The results of the application of Duncan's New Multiple Range Test applied to the differences among persisting and non-persisting students on the basis of mean scores on the ACT-Composite scale are presented in Table 6.

TABLE 6. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-COMPOSITE SCALE

Persistence	Means	NPA (N = 1186)	NPO (N = 1584)	P (N = 4233)	Shortest significant ranges
		18.7	20.4	21.4	
NPA	18.7	------	1.7 (54.10)*	2.7 (116.10)*	$R_2 = 17.82$
NPO	20.4		------	1.4 (67.10)*	$R_3 = 18.38$
P	21.4			------	
				P	
			NPO		
		NPA			

*Significant at the 0.001 level

Based on the results presented in Table 6, three significantly different subsets contributed to the significance of the variance ratio. Persisting students, regardless of campus, tended to achieve a significantly higher mean score on the ACT-Composite scale than did either of the non-persisting student samples. The academic non-persisting student tended to achieve a significantly lower mean score than did either the persisting or non-academic non-persisting student sub-samples.

Differences Between Male and Female Students on ACT Scores

In the attempt to discern if there were any significant differences between male and female students on the basis of scores on the tests of scholastic aptitude, the mean scores achieved on the ACT scales were compared. Since significant differences had been identified among persisting and non-persisting students, separate analyses were made for the three categories of persisting and non-persisting students in determining the significance of any differences between male and female members of the student sample.

Table 7 presents the differences between male and female persisting students on the basis of the ACT scales. Significant differences were found between the mean scores of four of the sub-scales of the ACT of which three of these differences were significant at the 0.001 level of confidence.

TABLE 7. DIFFERENCES BETWEEN MALE AND FEMALE PERSISTING STUDENTS ON THE BASIS OF ACT SCALES

ACT Scales	Male (N = 2410)		Female (N = 1824)		t	P
	Mean	d	Mean	d		
English	18.5	4.1	20.8	3.8	5.96	0.001
Mathematics	22.3	5.4	19.9	5.6	14.11	0.001
Social Science	22.0	4.9	22.3	4.9	1.97	0.05
Natural Science	22.6	4.9	21.5	4.9	7.22	0.001
Composite	21.5	3.8	21.3	3.8	1.06	NS

According to the results presented in Table 7, persisting female students tended to make significantly higher mean scores on the English and Social Science scales of the ACT than did male persisting students. The mean score difference between male and female persisting students on the basis of the ACT-English scale tended to be highly significant.

Male persisting students tended to make significantly higher mean scores on the Mathematics and Natural Science scales of the ACT than did female persisters. The mean score difference in each case was highly significant.

There were no significant differences identified between male and female persisting students in terms of the mean scores on the ACT-Composite scale.

Based on these results, the English, Mathematics, Social Science, and Natural Science sub-scales of the ACT tended to be identified as discriminate factors between male and female persisting students.

The results of the analysis for significant differences between male and female students who did not persist because of academic reasons are presented in Table 8. There were significant differences between male and female students who were academic non-persisters in terms of mean scores for all of the sub-scales of the ACT. All of the differences can be considered to be highly significant.

TABLE 8. DIFFERENCES BETWEEN MALE AND FEMALE ACADEMIC NON-PERSISTING STUDENTS ON THE BASIS OF THE ACT SCALES

ACT Scales	Male (N = 811)		Female (N = 376)		t	P
	Mean	d	Mean	d		
English	16.6	4.2	18.2	3.8	7.33	0.001
Mathematics	19.3	5.2	15.5	5.6	11.11	0.001
Social Science	19.7	4.9	18.8	5.1	2.86	0.01
Natural Science	20.5	5.1	18.2	4.8	7.97	0.001
Composite	19.2	3.8	17.8	3.4	6.35	0.001

According to these results, female students who did not persist because of academic reasons appeared to make significantly higher mean scores on the ACT-English scale than did male students who did not persist for similar reasons.

The results tended to indicate that male students who did not persist because of academic reasons seemed to make significantly higher mean scores on the Mathematics, Social Science, Natural Science, and Composite sub-scales of the ACT than did the female students who did not persist because of similar reasons.

All of the scales of the ACT seemed to discriminate between male and female academic non-persisting students. The results tended to indicate that the male academic non-persister may have had a significantly greater scholastic aptitude than did his female counterpart. The male academic non-persister seemed to reflect a significantly higher scholastic potential in terms of the general areas of Mathematics, Social Science, and Natural Science. The only area in which the female academic non-persister tended to indicate a significantly greater scholastic potential than her male counterpart was in terms of the general area of English.

Table 9 indicates the differences between male and female students who did not persist because of non-academic reasons in terms of the mean scores for the five sub-scales of the ACT. Highly significant differences between mean scores were indicated for three of the sub-scales.

Female students who did not persist because of non-academic reasons tended to make a significantly higher mean score on the ACT-English scale than did male students who did not persist for similar reasons.

TABLE 9. DIFFERENCES BETWEEN MALE AND FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS ON THE BASIS OF THE ACT SCALES

ACT Scales	Male (N = 833)		Female (N = 752)		t	P
	Mean	d	Mean	d		
English	17.6	4.2	20.3	4.1	12.94	0.001
Mathematics	21.1	5.3	18.9	5.6	8.00	0.001
Social Science	21.0	5.2	21.4	5.1	1.34	NS
Natural Science	21.8	5.2	20.5	5.0	5.07	0.001
Composite	20.5	4.0	20.4	4.0	0.49	NS

Male students who did not persist for non-academic reasons tended to make a significantly higher mean score on the Mathematics and Natural Science sub-scales of the ACT than did female students who were their counterparts.

There were no significant differences found between male and female students who did not persist for non-academic reasons in terms of mean scores on either the Social Science or Composite scales of the ACT.

Based on these results, the English, Mathematics, and Natural Science scales of the ACT tended to be discriminate variables between male and female students who did not persist because of non-academic reasons.

In summary, the analysis of the differences between male and female persisting and non-persisting students seemed to indicate that the female students, regardless of persisting or non-persisting status, tended to make a significantly higher mean score on the ACT-English scale than did her male counterpart. Conversely, the male student, regardless of persistence status, tended to make a significantly higher mean score on the Mathematics and Natural Science sub-scales of the ACT. The persisting female students appeared to indicate a significantly higher mean score on the Social Science sub-scale of the ACT, whereas the male student who was a non-persister because of academic reasons tended to reflect a significantly higher mean score than did the female student for this same sub-scale.

In terms of the Composite score for the ACT, there did not appear to be any significant differences between male and female persisting students or non-persisting students who withdrew for non-academic reasons. However, male students who withdrew for academic reasons tended to reflect a significantly higher mean score on the Composite scale of the ACT than did the female student who did not persist for similar reasons.

Differences Among Campuses on the Basis of ACT Scores

Differences Among Persisting Students Among Campuses. A purpose of the study was to determine if there were significant differences among campuses in terms of the scholastic aptitude of persisting and non-persisting students. Since significant differences had been identified among persisting and non-persisting students, as well as between male and female students, the data were partitioned into six separate subgroups where significant differences had been determined prior to the comparison of campuses on the basis of mean scores achieved on the ACT. This procedure was necessary in order to ensure that any differences that might be identified among campuses in terms of mean scores achieved on the various scales of the ACT were valid and could not be attributed to either differences between male and female students or among persisting and non-persisting students. Again, where significant differences were determined among campuses Duncan's New Multiple Range Test was applied to the variance ratio data in order to determine the location of the source of variance.

Table 10 presents the results of the differences among female persisting students among campuses on the basis of mean scores on the ACT scales. As these results indicate, significant differences were found among campuses on the basis of mean scores achieved by female persisting students on all of the sub-scales of the ACT with the exception of the Natural Science scale.

TABLE 10. DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT SCALES

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	294	4	73.44	5.14	0.01
	Within grps	25903	1811	14.30		
	Total	26197	1815			
Mathematics	Between grps	335	4	83.64	2.67	0.05
	Within grps	53776	1811	31.35		
	Total	54111	1815			
Social Science	Between grps	523	4	130.41	5.80	0.01
	Within grps	43855	1811	24.23		
	Total	44378	1815			
Natural Science	Between grps	196	4	48.90	2.06	NS
	Within grps	43078	1811	23.79		
	Total	43274	1815			

The results of Duncan's New Multiple Range Test as applied to the differences among female persisting students among campuses on the basis of mean score achieved on the ACT-English scale are presented in Table 11. These results tended to indicate that two subsets of means were significantly different from each other and seemed to account for the significant variance ratio found in Table 10.

TABLE 11. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF THE MEAN SCORE ON THE ACT-ENGLISH SCALE

Campus	Means	S (N = 237)	LC (N = 441)	RF (N = 194)	W (N = 553)	SP (N = 391)	Shortest significant ranges
		20.0	20.5	21.0	21.0	21.1	
S	20.0	------	0.5 (8.75)	1.0 (14.6)*	1.0 (18.2)*	1.1 (18.9)*	R_2 = 13.77
LC	20.5		------	0.5 (8.2)	0.5 (11.1)	0.6 (12.2)	R_3 = 14.34
RF	21.0			------	0.0 (0.0)	0.1 (1.6)	R_4 = 14.74
W	21.0				------	0.1 (2.1)	R_5 = 14.84
SP	21.1					------	
				RF	W	SP	
		S	LC				

*Significant at the 0.01 level

The results presented in Table 11 suggested that female students enrolled on the campuses of Stout and LaCrosse were not significantly different on the basis of the mean scores on the ACT-English scale. However, female students enrolled on the campuses of River Falls, Whitewater, and Stevens Point, while not being significantly different from each other, tended to achieve a significantly higher mean score on the ACT-English scale than did their counterparts enrolled on the campuses located at Stout and LaCrosse.

Table 12 presents the results of the application of Duncan's New Multiple Range Test to the differences among female persisting students among campuses on the basis of the mean score on the ACT-Mathematics scale.

The results shown in Table 12 suggested that two significantly different subsets of campuses contributed to the significance of the variance ratio among campuses. Female persisting students enrolled on the campuses of Stout, LaCrosse, River Falls, and Stevens Point did not appear to be significantly different in terms of the mean score achieved on the ACT-Mathematics scale. Female persisting students enrolled on the campuses located at River Falls, Stevens Point, and Whitewater did not appear to differ significantly. However, female students enrolled on the campus located at Whitewater tended to achieve a significantly higher mean score on the ACT-Mathematics scale than did their counterparts who were enrolled on the campuses located at Stout and LaCrosse. As these results indicate, the campuses at River Falls and Stevens Point were shared by both subsets.

The results presented in Table 13 indicate the application of Duncan's New Multiple Range Test to the differences among female persisting students among campuses on the basis of the mean score on the ACT-Social Science scale. These results suggested that two significantly different subsets of campuses contributed to the significance of the variance ratio. Female persisting students enrolled on the campuses of Stout, LaCrosse, and River Falls tended to form one subgroup of campuses. The second subset seemed to consist of female persisting students on the campuses of River Falls, Whitewater, and Stevens Point. The campus located at River Falls was shared by both subsets.

Based on these results, female persisting students on the campuses located at Stout, LaCrosse, and River Falls did not differ significantly from each other. Furthermore, female persisting students enrolled on the campuses located at River Falls, Whitewater, and Stevens Point did not vary significantly on the basis of mean score on the ACT-Social Science scale. However, female persisting students enrolled on the campuses located at Whitewater and Stevens Point, while not differing significantly from each other, did achieve a significantly higher mean score on the ACT-Social Science scale than did their counterparts who were enrolled on the campuses located at Stout and LaCrosse.

TABLE 12. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF THE MEAN SCORE ON THE ACT-MATHEMATICS SCALE

Campus	Means	S (N = 237)	LC (N = 441)	RF (N = 194)	SP (N = 391)	W (N = 553)	Shortest significant ranges
		19.3	19.4	19.9	19.9	20.4	
S	19.3	------	0.1 (1.75)	0.6 (8.76)	0.6 (10.32)	1.1 (20.02)*	$R_2 = 15.52$
LC	19.4		------	0.5 (8.20)	0.5 (8.02)	1.0 (22.14)*	$R_3 = 16.34$
RF	19.9			------	0.0 (0.00)	0.5 (8.45)	$R_4 = 16.89$
SP	19.9				------	0.5 (10.62)	$R_5 = 17.29$
W	20.4					------	
				RF	SP	W	
		S	LC	RF	SP		

*Significant at the 0.05 level

TABLE 13. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF THE MEAN SCORE ON THE ACT-SOCIAL SCIENCE SCALE

Campus	Means	S (N = 237)	LC (N = 441)	RF (N = 194)	W (N = 553)	SP (N = 391)	Shortest significant ranges
		21.6	21.7	22.6	22.7	22.9	
S	21.6	------	0.1 (1.75)	1.0 (14.60)	1.1 (20.02)*	1.3 (22.49)*	R_2 = 17.92
LC	21.7		------	0.9 (14.76)	1.0 (22.14)*	1.2 (24.42)*	R_3 = 18.68
RF	22.6			------	0.1 (1.69)	0.3 (4.83)	R_4 = 19.19
W	22.7				------	0.2 (4.25)	R_5 = 19.57
SP	22.9					------	
				RF	W	SP	
		S	LC	RF			

*Significant at the 0.01 level

Table 14 presents the results of the differences among male persisting students among campuses on the basis of mean scores on the ACT scales. The results shown in Table 14 suggested that significant differences were indicated among campuses on all the sub-scales of the ACT in terms of mean score achieved among the male persisting student subsamples.

TABLE 14. DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT SCALES

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	597	4	149.2	9.20	0.01
	Within grps	39014	2405	16.2		
	Total	39611	2409			
Mathematics	Between grps	301	4	75.4	2.64	0.05
	Within grps	68739	2405	28.6		
	Total	69040	2409			
Social Science	Between grps	760	4	190.0	7.88	0.01
	Within grps	58018	2405	24.1		
	Total	58778	2409			
Natural Science	Between grps	686	4	171.4	7.32	0.01
	Within grps	56297	2405	23.4		
	Total	56983	2409			

The application of Duncan's New Multiple Range Test applied to the differences among male persisting students among campuses on the basis of mean scores on the ACT-English scale are presented in Table 15. These results suggested that three significantly different subsets of campuses contributed to the significant differences found among campuses.

Based on these results, male persisting students enrolled on the campuses located at Stout and River Falls did not differ significantly on the basis of mean score on the ACT-English scale. Male persisting students enrolled on the campuses located at River Falls, LaCrosse, and Whitewater did not differ significantly. The third subset of campuses consisted of male persisting students enrolled at LaCrosse, Whitewater, and Stevens Point.

These results suggested that male persisting students enrolled on the campuses located at LaCrosse and Whitewater tended to achieve a significantly higher mean score on the ACT-English scale than did their counterparts enrolled on the campus located at Stout. Male persisting students enrolled on the campus located at Stevens Point tended to achieve a significantly higher mean score on the ACT-English scale than did their counterparts enrolled on either of the campuses located at Stout or River Falls.

TABLE 15. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-ENGLISH SCALE

Campus	Means	S (N = 222)	RF (N = 382)	LC (N = 529)	W (N = 691)	SP (N = 586)	Shortest significant ranges
		17.3	18.1	18.5	18.6	19.1	
S	17.3	------	0.8 (13.41)	1.2 (21.22)*	1.3 (23.83)*	1.8 (32.29)*	$R_2 = 14.64$
RF	18.1		------	0.4 (8.42)	0.5 (11.09)	1.0 (21.50)*	$R_3 = 15.26$
LC	18.5			------	0.1 (2.45)	0.6 (14.14)	$R_4 = 15.68$
W	18.6				------	0.5 (12.59)	$R_5 = 15.99$
SP	19.1					------	
				LC	W	SP	
			RF	LC	W		
		S	RF				

*Significant at the 0.01 level

The multiple comparison of the mean scores on the ACT-Mathematics scale as indicated by male persisting students among the various campuses is presented in Table 16.

The results presented in Table 16 appeared to indicate that male persisting students enrolled on the campuses located at River Falls, Whitewater, and Stevens Point tended to achieve significantly higher mean scores on the Mathematics sub-scale of the ACT than did their counterparts enrolled on the campus located at LaCrosse. The differences between LaCrosse and the subset of three campuses seemed to account for the significant variance found among campuses on the basis of this sub-scale of the ACT.

Table 17 presents the application of Duncan's New Multiple Range Test to the differences among male persisting students on the basis of mean scores on the ACT-Social Science scale. These results indicated two significantly different subsets of campuses. One subset consisted of male persisting students enrolled on the campuses located at River Falls, LaCrosse, Whitewater, and Stevens Point. While the male persisting students enrolled on these campuses did not differ significantly from each other, they did appear to achieve a significantly higher mean score on the Social Science sub-scale of the ACT than did their counterparts who were enrolled on the campus located at Stout.

The multiple comparison of mean scores on the ACT-Natural Science scale achieved by male persisting students among campuses is presented in Table 18. The results shown in Table 18 suggested three subsets of campuses tended to account for the significant differences found among campuses.

According to the results presented in Table 18, male persisting students enrolled on the campus located at River Falls tended to achieve significantly higher mean scores on the Natural Science sub-scale of the ACT than did their male counterparts at Stout. Furthermore, male persisting students enrolled on the campus located at Stevens Point tended to achieve higher mean scores on the ACT-Natural Science scale than did their counterparts enrolled on the campuses located at Stout and LaCrosse.

Since there were no significant differences found between male and female persisting students with regard to mean scores achieved on the ACT-Composite scale, these students were pooled into one persisting group with the mean scores achieved on each campus by this group compared to seek out differences among campuses. As indicated in Table 19, significant differences were found among campuses.

TABLE 16. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-MATHEMATICS SCALE

Campus	Means	LC (N = 529)	S (N = 222)	RF (N = 382)	W (N = 691)	SP (N = 586)	Shortest significant ranges
		21.5	22.0	22.3	22.7	22.8	
LC	21.5	-----	0.5 (8.84)	0.8 (16.84)*	1.2 (29.36)*	1.3 (30.63)*	$R_2 = 14.83$
S	22.0		------	0.3 (5.03)	0.7 (12.83)	0.8 (14.35)	$R_3 = 15.61$
RF	22.3			------	0.4 (8.87)	0.5 (10.75)	$R_4 = 16.14$
W	22.7				------	0.1 (2.52)	$R_5 = 16.53$
SP	22.8					------	
			S	RF	W	SP	
		LC	S				

*Significant at the 0.05 level

TABLE 17. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-SOCIAL SCIENCE SCALE

Campus	Means	S (N = 222)	RF (N = 382)	LC (N = 529)	W (N = 691)	SP (N = 586)	Shortest significant ranges
		20.4	21.8	22.1	22.2	22.5	
S	20.4	-----	1.4 (23.46)*	1.7 (30.06)*	1.8 (32.99)*	2.1 (37.67)*	$R_2 = 17.89$
RF	21.8		------	0.3 (6.32)	0.4 (8.87)	0.37 (15.05)	$R_3 = 18.64$
LC	22.1			------	0.1 (2.45)	0.4 (9.42)	$R_4 = 19.15$
W	22.2				------	0.3 (7.55)	$R_5 = 19.53$
SP	22.5					------	
			RF	LC	W	SP	
		S					

*Significant at the 0.01 level

TABLE 18. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-NATURAL SCIENCE SCALE

Campus	Means	S (N = 222)	LC (N = 529)	W (N = 691)	RF (N = 382)	SP (N = 586)	Shortest significant ranges
		21.6	22.3	22.4	22.8	23.4	
S	21.6	------	0.7 (12.38)	0.8 (14.66)	1.2 (20.11)*	1.8 (32.29)*	$R_2 = 17.63$
LC	22.3		------	0.1 (2.45)	0.5 (10.53)	1.1 (25.92)*	$R_3 = 18.37$
W	22.4			------	0.4 (8.87)	1.0 (25.18)	$R_4 = 18.88$
RF	22.8				------	0.6 (12.90)	$R_5 = 19.25$
SP	23.4					------	

W RF SP

LC W RF

S LC W

*Significant at the 0.01 level

TABLE 19. DIFFERENCES AMONG PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORE FOR THE ACT-COMPOSITE SCALE

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Composite	Between grps	729	4	132.1	8.92	0.01
	Within grps	62670	4229	14.8		
	Total	63399	4233			

Duncan's New Multiple Range Test was applied to the differences among persisting students among campuses on the basis of the mean score achieved for the ACT-Composite scale. The results of this statistical comparison are presented in Table 20.

These results suggested that three subsets of campuses contributed to the significant difference found among campuses. Based on these results, persisting students enrolled on the campus located at River Falls tended to achieve significantly higher mean scores on the ACT-Composite scale than did persisting students enrolled on the campus located at Stout. Male persisting students enrolled on the campus located at Stevens Point tended to achieve a higher mean score for the Composite sub-scale of the ACT than their counterparts enrolled on the campuses located at Stout, Whitewater, and LaCrosse, but did not vary significantly from those persisting students enrolled on the campus located at River Falls.

Differences Among Academic Non-Persisting Students Among Campuses. Since significant differences were revealed between male and female academic non-persisting students on all scales of the ACT, separate comparisons of campuses were made for male and female academic non-persisting students.

Table 21 presents the differences among female academic non-persisting students among campuses on the basis of mean scores for the ACT scales. As the results presented in Table 21 indicate, significant differences were revealed among female academic non-persisting students among campuses on the basis of mean scores for four of the five ACT scales. Based on these results, the English, Social Science, Natural Science, and Composite sub-scales of the ACT seemed to be discriminate variables among female academic non-persisting students among campuses.

TABLE 20. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO DIFFERENCES AMONG PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORE FOR THE ACT-COMPOSITE SCALE

Campus	Means	S (N = 458)	W (N = 1243)	LC (N = 970)	RF (N = 584)	SP (N = 977)	Shortest significant ranges
		20.6	20.6	21.0	21.4	21.9	
S	20.6	------	0.0 (0.0)	0.4 (10.02)	0.8 (18.12)*	1.3 (32.46)*	R_2 = 14.03
W	20.6		------	0.4 (13.20)	0.8 (11.27)	1.3 (43.03)*	R_3 = 14.61
LC	21.0			------	0.4 (10.80)	0.9 (28.08)*	R_4 = 15.02
RF	21.4				------	0.5 (13.52)	R_5 = 15.32
SP	21.9					------	
					RF	SP	
			W	LC	RF		
		S	W	LC			

*Significant at the 0.01 level

TABLE 21. DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT SCALES

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	426	4	106.50		
	Within grps	5236	371	14.10	7.54	0.01
	Total	5662	375			
Mathematics	Between grps	114	4	28.55		
	Within grps	7418	371	19.99	1.42	NS
	Total	7532	375			
Social Science	Between grps	538	4	132.50		
	Within grps	9252	371	24.90	5.32	0.01
	Total	9790	375			
Natural Science	Between grps	218	4	54.60		
	Within grps	8316	371	22.40	2.43	0.05
	Total	8534	375			
Composite	Between grps	212	4	53.10		
	Within grps	4080	371	10.90	4.83	0.01
	Total	4292	375			

Table 22 indicates the results of the application of Duncan's New Multiple Range Test applied to the differences among female academic non-persisting students among campuses on the basis of mean scores achieved on the ACT-English scale.

Based on the results presented in Table 22, two subsets of campuses tended to account for the significant variance ratio found for the ACT-English sub-scale indicated in Table 21. Female academic non-persisting students enrolled on the campuses located at LaCrosse and Stout formulated one subset while female academic non-persisting students enrolled on the campuses located at Stout, Whitewater, Stevens Point, and River Falls formed the other subset. The variances which appeared to account for the significant variance ratio tended to be contributed by female academic non-persisting students who were enrolled on the campuses of River Falls, Stevens Point, and Whitewater, since these students tended to achieve a significantly higher mean score on the ACT-English scale than did their counterparts who were enrolled on the campus located at Stout.

The multiple comparison of campuses on the basis of mean scores achieved for the ACT-Social Science scale by female academic non-persisters is presented in Table 23. These results seemed to indicate that female academic non-persisting students who were enrolled on the campuses located at Stevens Point, River Falls, and Whitewater tended to achieve a significantly higher mean score on the Social Science sub-scale of the ACT than did similar students who were enrolled on the campus located at Stout. Female academic non-persisters who were enrolled on the campuses located at LaCrosse, Whitewater, River Falls, and Stevens Point did not differ significantly in terms of their mean score on this sub-scale of the ACT. Furthermore, female academic non-persisting students who were enrolled on the campuses located at Stout and LaCrosse did not differ significantly.

TABLE 22. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-ENGLISH SCALE

Campus	Means	LC (N = 58)	S (N = 29)	W (N = 194)	SP (N = 79)	RF (N = 16)	Shortest significant ranges
		15.7	17.6	18.3	18.7	19.5	
LC	15.7	------	1.9 (11.82)	2.6 (24.54)*	3.0 (24.54)*	3.8 (19.00)*	$R_2 = 13.66$
S	17.6		------	0.7 (4.97)	1.1 (7.15)	1.9 (8.63)	$R_3 = 14.24$
W	18.3			------	0.4 (4.24)	1.2 (6.54)	$R_4 = 14.62$
SP	18.7				------	0.8 (4.12)	$R_5 = 14.92$
RF	19.5					------	
			S	W	SP	RF	
		LC	S				

*Significant at the 0.01 level

TABLE 23. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-SOCIAL SCIENCE SCALE

Campus	Means	S (N = 29)	LC (N = 58)	W (N = 194)	RF (N = 16)	SP (N = 79)	Shortest significant ranges
		15.4	17.5	19.3	19.4	19.6	
S	15.4	------	2.1 (13.06)	3.9 (27.73)*	4.0 (18.16)*	4.2 (27.30)*	$R_2 = 16.28$
LC	17.5		------	1.8 (16.89)	1.9 (9.50)	2.1 (15.54)	$R_3 = 16.96$
W	19.3			------	0.1 (0.55)	0.3 (3.18)	$R_4 = 17.43$
RF	19.4				------	0.2 (1.03)	$R_5 = 17.78$
SP	19.6					------	
			LC	W	RF	SP	
		S	LC				

*Significant at the 0.01 level

The application of Duncan's New Multiple Range Test to the differences among female academic non-persisters among campuses on the basis of mean scores achieved for the ACT-Natural Science scale tended to reveal three subsets of campuses. These results are presented in Table 24.

On the basis of the results presented in Table 24, female academic non-persisting students who were enrolled on the campus located at Stout tended to achieve a significantly lower mean score on the ACT-Natural Science scale than any other campus. Female academic non-persisting students who were enrolled on the campuses located at LaCrosse, Stevens Point, and River Falls did not differ significantly. Furthermore, these same students who were enrolled on the campuses located at Stevens Point, River Falls, and Whitewater did not differ significantly. However, female academic non-persisting students who were enrolled on the campus located at Whitewater did achieve a significantly higher mean score on the Natural Science sub-scale of the ACT than did their counterparts who were enrolled on the campus located at LaCrosse.

Table 25 presents the results of the analysis of the comparison of campuses in terms of the mean score achieved for the ACT-Composite scale by female academic non-persisting students. These results indicate that two subsets of campuses were contributing to the significant difference among campuses.

The results presented in Table 25 tended to indicate that female academic non-persisting students who were enrolled on the campus located at Stout did not differ significantly in terms of their achieved mean score for the ACT-Composite scale from those enrolled on the campus located at LaCrosse. However, the female academic non-persisting student at Stout did tend to achieve a significantly lower ACT-Composite mean score than did similar students who were enrolled on the campuses located at Whitewater, Stevens Point, and River Falls.

The results of the differences among male academic non-persisting students among campuses on the basis of mean scores for the ACT scales are presented in Table 26. As the results in Table 26 indicate, significant differences were found among male academic non-persisting students among campuses on the basis of mean scores for four of the five sub-scales of the ACT. Based on these results, the Mathematics, Social Science, Natural Science, and Composite sub-scales of the ACT seemed to differentiate among male academic non-persisting students among campuses.

TABLE 24. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-NATURAL SCIENCE SCALE

Campus	Means	S (N = 29)	LC (N = 58)	SP (N = 79)	W (N = 194)	RF (N = 16)	Shortest significant ranges
		15.4	17.7	18.5	19.3	19.7	
S	15.4	------	2.3 (14.30)*	3.1 (20.15)*	3.9 (27.73)*	4.3 (19.52)*	$R_2 = 13.83$
LC	17.7		------	0.8 (6.54)	1.6 (15.10)*	2.0 (10.00)	$R_3 = 14.56$
SP	18.5			------	0.8 (8.47)	1.2 (6.18)	$R_4 = 15.05$
W	19.3				------	0.4 (2.18)	$R_5 = 15.41$
RF	19.7					------	

SP RF W

LC SP RF

S

*Significant at the 0.05 level

TABLE 25. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-COMPOSITE SCALE

Campus	Means	S (N = 29)	LC (N = 58)	W (N = 194)	SP (N = 79)	RF (N = 16)	Shortest significant ranges
		15.6	17.0	18.1	18.1	18.6	
S	15.6	------	1.4 (8.71)	2.5 (17.86)*	2.5 (16.25)*	3.0 (13.62)*	$R_2 = 12.06$
LC	17.0		------	1.1 (10.38)	1.1 (8.99)	1.6 (8.00)	$R_3 = 12.56$
W	18.1			------	0.0 (0.0)	0.5 (2.73)	$R_4 = 12.90$
SP	18.1				------	0.5 (2.58)	$R_5 = 13.17$
RF	18.6					------	
			LC	W	SP	RF	
		S	LC				

*Significant at the 0.01 level

TABLE 26. DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT SCALES

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	93	4	23.4	1.36	NS
	Within grps	13886	807	17.2		
	Total	13979	811			
Mathematics	Between grps	282	4	70.5	2.59	0.05
	Within grps	21941	807	27.2		
	Total	22223	811			
Social Science	Between grps	451	4	112.8	4.76	0.01
	Within grps	19112	807	23.7		
	Total	19563	811			
Natural Science	Between grps	304	4	75.9	2.96	0.05
	Within grps	20699	807	25.6		
	Total	21003	811			
Composite	Between grps	253	4	63.3	4.50	0.01
	Within grps	11350	807	14.1		
	Total	11603	811			

In order to determine the location of the variances among campuses found for each of the significant sub-scales of the ACT, Duncan's New Multiple Range test was applied to the data.

Table 27 indicates the results of the application of Duncan's New Multiple Range Test to the differences among male academic non-persisting students among campuses on the basis of mean scores for the ACT-Mathematics scale.

Based on these results, male academic non-persisting students who were enrolled on the campuses located at Whitewater and Stevens Point, while not differing significantly from each other in terms of their mean score for the ACT-Mathematics scale nor from their counterparts enrolled on the campus located at Stout, did achieve a significantly higher mean score than similar students who were enrolled on the campuses located at River Falls and LaCrosse.

The multiple comparison of male academic non-persisting students among campuses on the basis of mean scores achieved on the ACT-Social Science scale is presented in Table 28. As these results indicate, three subsets of campuses were identified.

According to these results there were no significant differences found among male academic non-persisting students who were enrolled on the campuses located at Stout, LaCrosse, and River Falls. There did not appear to be any significant differences identified among male academic non-persisting students who were enrolled on the campuses located at LaCrosse, River Falls, and Whitewater. Male academic non-persisting students who were enrolled on the campuses located at River Falls, Whitewater, and Stevens Point did not appear to differ significantly.

TABLE 27. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-MATHEMATICS SCALE

Campus	Means	RF (N = 55)	LC (N = 123)	S (N = 114)	SP (N = 283)	W (N = 237)	Shortest significant ranges
		17.7	18.5	19.3	19.6	19.7	
RF	17.7	------	0.8 (6.98)	1.6 (13.78)	1.9 (18.24)*	2.0 (18.94)*	$R_2 = 14.47$
LC	18.5		------	0.8 (8.70)	1.1 (16.58)*	1.2 (15.26)*	$R_3 = 15.23$
S	19.3			------	0.3 (3.82)	0.4 (5.87)	$R_4 = 15.75$
SP	19.6				------	0.1 (1.61)	$R_5 = 16.12$
W	19.7					------	
				S	SP	W	
		RF	LC	S			

*Significant at the 0.05 level

TABLE 28. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-SOCIAL SCIENCE SCALE

Campus	Means	S (N = 114)	LC (N = 123)	RF (N = 55)	W (N = 237)	SP (N = 283)	Shortest significant ranges
		18.5	18.8	18.8	19.9	20.4	
S	18.5	------	0.3 (3.26)	0.3 (2.58)	1.4 (20.54)*	1.9 (24.21)*	$R_2 = 17.74$
LC	18.8		------	0.0 (0.0)	1.1 (13.99)	1.6 (24.13)*	$R_3 = 18.49$
RF	18.8			------	1.1 (10.31)	1.6 (15.36)	$R_4 = 18.99$
W	19.9				------	0.5 (8.03)	$R_5 = 19.37$
SP	20.4					------	
				RF	W	SP	
			LC	RF	W		
		S	LC	RF			

*Significant at the 0.01 level

The results did suggest that the male academic non-persisting student who was enrolled on the campuses located at Whitewater and Stevens Point did achieve a significantly higher mean score on the ACT-Social Science scale than did the male academic non-persisting student who was enrolled on the campus located at Stout. Furthermore, the male academic non-persisting student who was enrolled at Stevens Point tended to exceed significantly his counterpart who was enrolled at LaCrosse.

Table 29 presents the application of Duncan's New Multiple Range Test to the differences among male academic non-persisting students on the basis of mean score achieved for the Natural Science sub-scale of the ACT. Based on these results, male academic non-persisting students who were enrolled at Stevens Point tended to achieve a significantly higher mean score on the Natural Science sub-scale of the ACT than did male academic non-persisting students who were enrolled on the campuses located at LaCrosse and River Falls.

Two subsets of campuses tended to be formed when the means achieved on the ACT-Composite scale by male academic non-persisting students among campuses were compared. These results are presented in Table 30.

According to these results, male academic non-persisting students who were enrolled on the campus located at Stevens Point tended to achieve a significantly higher mean score on the ACT-Composite scale than did male academic non-persisting students who were enrolled at River Falls and LaCrosse. However, there were no significant differences revealed among male academic non-persisting students who were enrolled on the campuses located at Stevens Point, Whitewater, and Stout. Furthermore, there were no significant differences indicated among male academic non-persisting students who were enrolled on the campuses located at River Falls, LaCrosse, Stout, and Whitewater.

Differences Among Non-Academic Non-Persisting Students Among Campuses. Since there were significant differences found between male and female non-academic non-persisting students on the basis of mean scores on the ACT scales, separate analyses were conducted on those ACT scales where these significant differences were revealed.

Table 31 shows the differences among female non-academic non-persisting students among campuses on the basis of mean scores on the English, Mathematics, and Natural Science scales of the ACT. According to the results presented in Table 31, there were no significant differences revealed among female non-academic non-persisting students among campuses on the basis of mean scores for these sub-scales of the ACT.

TABLE 29. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-NATURAL SCIENCE SCALE

Campus	Means	LC (N = 123)	RF (N = 55)	W (N = 237)	S (N = 114)	SP (N = 283)	Shortest significant ranges
		19.5	19.6	20.5	20.5	21.2	
LC	19.5	------	0.1 (0.87)	1.0 (12.72)	1.0 (10.87)	1.7 (25.64)*	R_2 = 14.02
RF	19.6		------	0.9 (8.52)	0.9 (7.75)	1.6 (15.36)*	R_3 = 14.77
W	20.5			------	0.0 (0.0)	0.7 (11.24)	R_4 = 15.27
S	20.5				------	0.7 (8.94)	R_5 = 15.63
SP	21.2					------	
				W	S	SP	
		LC	RF	W	S		

*Significant at the 0.05 level

TABLE 30. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ACT-COMPOSITE SCALE

Campus	Means	RF (N = 55)	LC (N = 123)	S (N = 114)	W (N = 237)	SP (N = 283)	Shortest significant ranges
		18.2	18.4	18.6	19.4	19.7	
RF	18.2	------	0.2 (1.74)	0.4 (3.44)	1.2 (11.36)	1.5 (14.40)*	$R_2 = 13.52$
LC	18.4		------	0.2 (2.17)	1.0 (12.72)	1.3 (19.60)*	$R_3 = 14.08$
S	18.6			------	0.8 (11.74)	1.1 (14.01)	$R_4 = 14.47$
W	19.4				------	0.3 (4.82)	$R_5 = 14.76$
SP	19.7					------	
				S	W	SP	
		RF	LC	S	W		

*Significant at the 0.01 level

TABLE 31. DIFFERENCES AMONG FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ENGLISH, MATHEMATICS, AND NATURAL SCIENCE SCALES OF THE ACT

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	104	4	25.9	1.57	NS
	Within grps	12345	747	16.5		
	Total	12449	751			
Mathematics	Between grps	165	4	41.2	1.32	NS
	Within grps	23590	747	31.6		
	Total	23755	751			
Natural Science	Between grps	100	4	24.9	1.00	NS
	Within grps	18581	747	24.9		
	Total	18681	751			

The differences among male non-academic non-persisting students among campuses on the basis of mean scores achieved on the English, Mathematics, and Natural Science sub-scales of the ACT are presented in Table 32. According to the results shown in Table 32, only the English sub-scale of the ACT tended to differentiate among male non-academic non-persisting students among campuses. There were no significant differences indicated among male non-academic non-persisting students among campuses on the basis of mean score achieved on the Mathematics and Natural Science sub-scales of the ACT.

TABLE 32. DIFFERENCES AMONG MALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES FOR THE ENGLISH, MATHEMATICS, AND NATURAL SCIENCE SCALES OF THE ACT

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
English	Between grps	260	4	64.8	3.75	0.01
	Within grps	14311	828	17.3		
	Total	14571	832			
Mathematics	Between grps	80	4	19.9	0.71	NS
	Within grps	23305	828	28.2		
	Total	23385	832			
Natural Science	Between grps	211	4	52.8	1.91	NS
	Within grps	22825	828	27.6		
	Total	23036	832			

In the effort to discern the exact location of the cause of the significant variance ratio found among male non-academic non-persisting students among campuses on the ACT-English scale, Duncan's New Multiple Range Test was applied to the data. These results are presented in Table 33.

TABLE 33. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO DIFFERENCES AMONG MALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE ACT-ENGLISH SCALE

Campus	Means	RF (N = 145)	W (N = 192)	S (N = 172)	SP (N = 160)	LC (N = 164)	Shortest significant ranges
		16.8	17.4	17.5	18.0	18.5	
RF	16.8	------	0.6 (7.70)	0.7 (8.78)	1.2 (14.56)	1.7 (21.05)*	$R_2 = 15.15$
W	17.4		------	0.1 (1.35)	0.6 (7.93)	1.1 (14.62)	$R_3 = 15.79$
S	17.5			------	0.5 (6.43)	1.0 (12.96)	$R_4 = 16.22$
SP	18.0				------	0.5 (6.36)	$R_5 = 16.55$
LC	18.5					------	
			W	S	SP	LC	
		RF	W	S	SP		

*Significant at the 0.01 level

According to the results presented in Table 33, two subsets of campuses were indicated. Male non-academic non-persisting students who were enrolled on the campuses located at Whitewater, Stout, Stevens Point, and LaCrosse did not appear to differ significantly in terms of mean score on the ACT-English scale. Male non-academic non-persisting students who were enrolled on the campuses located at River Falls, Whitewater, Stout, and Stevens Point comprised the second subset of campuses. The significant variance ratio indicated in Table 32 for the English sub-scale of the ACT tended to be isolated to the difference between male non-academic non-persisting students who were enrolled on the campuses located at LaCrosse and River Falls. Male non-academic non-persisting students who were enrolled on the campus located at LaCrosse tended to achieve a significantly higher mean score on the English sub-scale of the ACT than did their counterparts who were enrolled on the campus located at River Falls.

Since there were no significant differences between male and female non-academic non-persisting students on the basis of the mean scores achieved on the Social Science and Composite sub-scales of the ACT, these two subgroups were pooled and comparisons were made for differences among campuses. The results of this comparison are presented in Table 34. According to the results presented in Table 34, there was a significant difference among non-academic non-persisting students among campuses on the basis of the mean scores achieved on these two sub-scales.

TABLE 34. DIFFERENCES AMONG NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORES ON THE SOCIAL SCIENCE AND COMPOSITE SCALES OF THE ACT

ACT Scales	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Social Science	Between grps	341	4	85.3	3.33	0.01
	Within grps	40473	580	25.6		
	Total	40814	584			
Composite	Between grps	175	4	43.7	3.18	0.05
	Within grps	24798	580	15.7		
	Total	24973	584			

Duncan's New Multiple Range Test was applied to the differences among non-academic non-persisting students among campuses on the basis of the mean score on the ACT-Social Science scale. The results of this statistical application are presented in Table 35.

TABLE 35. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORE ON THE ACT-SOCIAL SCIENCE SCALE

Campus	Means	S (N = 308)	RF (N = 228)	LC (N = 355)	W (N = 431)	SP (N = 268)	Shortest significant ranges
		20.6	20.6	21.0	21.5	21.8	
S	20.6	------	0.0 (0.0)	0.4 (7.23)	0.9 (17.06)*	1.2 (20.32)*	$R_2 = 14.03$
RF	20.6		------	0.4 (6.66)	0.9 (15.53)*	1.2 (18.84)*	$R_3 = 14.76$
LC	21.0			------	0.5 (9.87)	0.8 (13.98)	$R_4 = 15.27$
W	21.5				------	0.3 (5.45)	$R_5 = 15.63$
SP	21.8					------	
				LC	W	SP	
		S	RF	LC			

*Significant at the 0.05 level

According to the results shown in Table 35, two subsets of campuses were formulated. One subset consisted of campuses located at Stout, River Falls, and LaCrosse, while the second subset of campuses consisted of those located at LaCrosse, Whitewater, and Stevens Point. These results tended to indicate that non-academic non-persisting students who were enrolled at Stevens Point and Whitewater tended to achieve a significantly higher mean score on the ACT-Social Science scale than did their counterparts who were enrolled on the campuses located at Stout and River Falls. However, non-academic non-persisting students who were enrolled on the campuses located at Stevens Point and Whitewater did not appear to differ significantly from each other nor from their counterparts who were enrolled at LaCrosse. Non-academic non-persisting students who were enrolled on the campuses located at Stout and River Falls tended to have a significantly lower mean score than their counterparts on campuses located at Whitewater and Stevens Point but did not vary significantly from others located on the campus at LaCrosse.

Table 36 presents the results of the application of Duncan's New Multiple Range Test to the differences among non-academic non-persisting students on the basis of mean scores for the ACT-Composite scale.

Based on the results presented in Table 36, there did not appear to be any significant differences among non-academic non-persisting students who were enrolled on the campuses located at River Falls, LaCrosse, Stout, and Whitewater in terms of mean score for the Composite sub-scale of the ACT. While non-academic non-persisting students who were enrolled on the campus located at Stevens Point tended to achieve a significantly higher mean score on the ACT-Composite scale than their counterparts at River Falls and LaCrosse, these students did not differ significantly from those non-academic non-persisting students who were enrolled on the campuses located at Stout and Whitewater.

Summary of Differences Among Campuses on the Basis of ACT Scores. Since there were significant differences revealed among persisting and non-persisting students as well as between male and female students on all campuses, separate analysis for the six subgroups was necessary to determine if there were significant differences among campuses on the basis of mean scores achieved for each of the five sub-scales of the ACT. With the exception of the Natural Science sub-scale of the ACT, all other scales tended to discriminate among campuses for male and female persisting students. In terms of academic non-persisting students, the Mathematics sub-scale of the ACT did not discriminate among female academic non-persisting students among campuses and the English sub-scale did not discriminate among male academic non-persisting students among campuses. All other scales tended to reflect a significant difference among academic non-persisting students among campuses. There were only three scales which tended to reveal any significant difference among campuses on the basis of mean scores achieved on the ACT scales by non-academic non-persisting students. While the English, Mathematics, and Natural Science sub-scales of the ACT tended to discriminate between male and female non-academic non-persisters, only the English sub-scale tended to reflect significant differences among campuses for the male non-academic non-persisting student among campuses. The Social Science and Composite sub-scales of the ACT tended to be discriminate factors among non-academic non-persisting students among campuses.

TABLE 36. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN SCORE ON THE ACT-COMPOSITE SCALE

Campus	Means	RF (N = 228)	LC (N = 355)	S (N = 308)	W (N = 431)	SP (N = 268)	Shortest significant ranges
		19.9	20.3	20.3	20.5	21.0	
RF	19.9	--------	0.4 (6.66)	0.4 (6.47)	0.6 (10.35)	1.1 (17.27)*	$R_2 = 10.97$
LC	20.3		--------	0.0 (0.0)	0.2 (3.95)	0.7 (12.23)*	$R_3 = 11.55$
S	20.3			--------	0.2 (3.79)	0.7 (11.85)	$R_4 = 11.94$
W	20.5				--------	0.5 (9.08)	$R_5 = 12.23$
SP	21.0					--------	
				S	W	SP	
		RF	LC	S	W		

*Significant at the 0.05 level

Analysis of High School Achievement

A second area of investigation was to seek out differences among persisting and non-persisting students among campuses on the basis of previous high school achievement. The total student sample had participated in the providing of these data through responding to the American College Testing Program (ACT). The average grade achieved in high school that was indicated by each student on this instrument was used as the estimate of previous high school achievement of the persisting and non-persisting students.

Table 37 indicates the differences among persisting and non-persisting students for all campuses on the basis of mean grade point achieved in high school. As the results in Table 37 indicate, there were highly significant differences revealed among the compared groups of students.

TABLE 37. DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS FOR ALL CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	256	2	128.00		
Within grps	2670	6821	0.39	327.9	0.001
Total	2926	6823			

The results of the application of Duncan's New Multiple Range Test to the differences reflected in Table 37 are presented in Table 38. The results of this multiple comparison suggested that there were three distinct subsets of students which contributed to the highly significant variance ratio indicated in Table 37.

Based on these results, there appeared to be a definite hierarchy of high school achievement among the compared groups of students. As might be expected, the persisting students seemed to achieve a significantly higher grade average in high school than the non-persisting student. Furthermore, the academic non-persisting student tended to indicate a significantly lower average grade achieved in high school than either the non-persisting student who withdrew from the university for non-academic reasons or the persisting student.

TABLE 38. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Persistence	Means	NPA (N = 1153)	NPO (N = 1525)	P (N = 4140)	Shortest significant ranges
		2.08	2.45	2.61	
NPA	2.08	------	0.37 (13.31)*	0.53 (22.27)*	$R_2 = 2.26$
NPO	2.45		------	0.16 (7.55)*	$R_3 = 2.35$
P	2.61			------	$R_4 = 2.42$
		NPA	NPO	P	

*Significant at the 0.01 level

Differences Among Male and Female Students and High School Achievement. Comparisons were made between male and female students on the basis of the average grade achieved in high school in order to discern if there were any significant differences between these two student subgroups. Since significant differences had been identified among persisting and non-persisting students, separate analyses were made for the three categories of persisting and non-persisting students in order to determine the significance of any differences between male and female members of the student sample.

The results of the analysis for differences between male and female persisting and non-persisting students are presented in Tables 39 through 41. As these results indicate, there were highly significant differences found between male and female persisting and non-persisting students in terms of their average grade achieved in high school.

Based on the results indicated in Tables 39 through 41, the female student, regardless of the campus and persistence status, tended to achieve a higher grade point average in high school than did her male counterpart.

TABLE 39. DIFFERENCES BETWEEN MALE AND FEMALE PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF AVERAGE GRADE ACHIEVED IN HIGH SCHOOL

Mean		d		N - 1		t	P
M	F	M	F	M	F		
2.47	2.78	0.63	0.63	2341	1796	15.69	0.01

TABLE 40. DIFFERENCES BETWEEN MALE AND FEMALE ACADEMIC NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF AVERAGE GRADE ACHIEVED IN HIGH SCHOOL

Mean		d		N - 1		t	P
M	F	M	F	M	F		
2.03	2.17	0.47	0.51	782	370	4.46	0.01

TABLE 41. DIFFERENCES BETWEEN MALE AND FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF AVERAGE GRADE ACHIEVED IN HIGH SCHOOL

Mean		d		N - 1		t	P
M	F	M	F	M	F		
2.28	2.64	0.65	0.65	795	729	11.28	0.01

Differences Among Campuses in Terms of High School Achievement. Since significant differences were found between male and female students as well as among persisting and non-persisting students, the total group was partitioned into six subgroups. The purpose of this partitioning prior to attempting to discern if there were significant differences among campuses was to ensure that any significant differences found among campuses could not be attributed to the differences between male and female students nor among persisting and non-persisting students.

Differences Among Persisting Students in Terms of High School Achievement. The results presented in Table 42 indicate the differences among female persisting students among campuses on the basis of mean grade point achieved in high school. As the results presented in Table 42 indicate, there were significant differences found among campuses.

TABLE 42. DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	13.3	4	3.33		
Within grps	702.1	1786	0.39	8.54	0.01
Total	715.4	1790			

The data presented in Table 42 was further analyzed through the application of Duncan's New Multiple Range Test to determine the reasons for the significant variance ratio. These results are presented in Table 43.

Based on the results of the application of Duncan's New Multiple Range Test, two subsets of campuses seemed to be revealed. Female persisting students who were enrolled on the campuses located at Stout, Whitewater, and River Falls did not seem to differ significantly in terms of their previous high school achievement. Furthermore, female persisting students who were enrolled on the campuses at River Falls, Stevens Point, and LaCrosse did not appear to differ significantly. However, female persisting students who were enrolled on the campuses located at Stevens Point and LaCrosse, while not differing significantly from each other, did appear to achieve a significantly higher grade point average in high school than did their counterparts who were enrolled on the campuses located at Stout and Whitewater.

TABLE 43. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVEMENT IN HIGH SCHOOL

Campus	Means	S (N = 231)	W (N = 545)	RF (N = 194)	SP (N = 383)	LC (N = 435)	Shortest significant ranges
		2.70	2.74	2.75	2.87	2.89	
S	2.70	------	0.04 (0.72)	0.05 (0.73)	0.17 (2.87)*	0.19 (3.30)*	$R_2 = 2.26$
W	2.74		------	0.01 (0.17)	0.13 (2.76)*	0.15 (3.29)*	$R_3 = 2.35$
RF	2.75			------	0.12 (1.92)	0.14 (2.13)	$R_4 = 2.42$
SP	2.87				------	0.02 (0.40)	$R_5 = 2.47$
LC	2.89					------	
				RF	SP	LC	
		S	W	RF			

*Significant at the 0.01 level

Table 44 presents the differences among male persisting students among campuses on the basis of mean grade point achieved in high school. As these results indicate, significant differences were indicated among campuses.

TABLE 44. DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	18.5	4	4.62		
Within grps	905.9	2341	0.39	11.94	0.01
Total	924.4	2345			

The results of the multiple comparison of the mean grade points achieved in high school by male persisting students among campuses are presented in Table 45. As these results indicate, two distinct subsets of campuses were revealed.

According to the results presented in Table 45, male persisting students who were enrolled on the campuses located at Stout, Whitewater, and LaCrosse did not differ significantly in terms of their previous high school achievement. Male persisting students who were enrolled on the campuses located at Stevens Point and River Falls, while not differing significantly from each other, appeared to achieve a significantly higher mean grade point in high school than their counterparts who were enrolled on the campuses located at Stout, Whitewater, and LaCrosse.

Differences Among Academic Non-Persisting Students in Terms of High School Achievement. Significant differences were found among female academic non-persisting students among campuses on the basis of mean grade point achieved in high school. These results are presented in Table 46.

TABLE 46. DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	2.2	4	0.56		
Within grps	98.3	368	0.27	2.08	0.05
Total	100.5	372			

In an effort to account for the significant variance ratio that was reflected in Table 46, Duncan's New Multiple Range Test was applied to these differences. The results of this multiple comparison are presented in Table 47.

TABLE 45. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Campus	Means	S (N = 216)	W (N = 681)	LC (N = 502)	SP (N = 568)	RF (N = 373)	Shortest significant ranges
		2.33	2.41	2.45	2.56	2.58	
S	2.33	------	0.08 (1.45)	0.12 (2.09)	0.23 (4.07)*	0.25 (4.13)*	$R_2 = 2.29$
W	2.41		------	0.04 (0.96)	0.15 (3.73)*	0.17 (3.73)*	$R_3 = 2.39$
LC	2.45			------	0.11 (2.54)*	0.13 (2.69)*	$R_4 = 2.46$
SP	2.56				------	0.02 (0.42)	$R_5 = 2.51$
RF	2.58					------	
					SP	RF	
		S	W	LC			

*Significant at the 0.01 level

TABLE 47. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Campus	Means	S (N = 49)	RF (N = 12)	SP (N = 77)	W (N = 192)	LC (N = 57)	Shortest significant ranges
		2.07	2.14	2.17	2.19	2.35	
S	2.07	------	0.07 (0.31)	0.10 (0.77)	0.12 (0.94)	0.28 (2.03)*	$R_2 = 1.44$
RF	2.14		------	0.03 (0.14)	0.05 (0.24)	0.21 (0.93)	$R_3 = 1.52$
SP	2.17			------	0.02 (0.21)	0.18 (1.46)	$R_4 = 1.57$
W	2.19				------	0.16 (1.50)	$R_5 = 1.61$
LC	2.35					------	
			RF	SP	W	LC	
		S	RF	SP	W		

*Significant at the 0.05 level

Based on the results presented in Table 47, female academic non-persisting students who were enrolled on the campus located at LaCrosse tended to achieve a significatnly higher mean grade point average in high school than did their counterparts who were enrolled on the campus located at Stout. However, the female academic non-persisting student who was enrolled at LaCrosse did not differ significantly in terms of mean grade point achieved in high school from similar students who were enrolled on the campuses located at River Falls, Stevens Point, and Whitewater. The female academic non-persisting student who was enrolled on the campus located at Stout did not differ significantly from similar students who were enrolled on the campuses located at River Falls, Stevens Point, and Whitewater in terms of previous high school achievement.

Table 48 presents the differences among male academic non-persisting students among campuses on the basis of mean grade point achieved in high school.

TABLE 48. DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	1.5	4	0.38		
Within grps	103.7	782	0.13	2.9	0.05
Total	105.2	786			

Since there were significant differences found among campuses, Duncan's New Multiple Range Test was applied to the data in an effort to discern the location of the variance. These results are presented in Table 49.

The results presented in Table 49 indicate that two distinct subsets of campuses were formulated. Male academic non-persisting students who were enrolled on the campuses located at Whitewater, LaCrosse, Stevens Point, and River Falls did not appear to differ significantly from each other in terms of previous high school achievement. However, male academic non-persisting students who were enrolled on all of these campuses tended to achieve a significantly higher mean grade point average than did their counterparts who were enrolled on the campus located at Stout.

TABLE 49. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Campus	Means	S (N = 108)	W (N = 230)	LC (N = 119)	SP (N = 270)	RF (N = 53)	Shortest significant ranges
		1.93	2.03	2.06	2.06	2.07	
S	1.93	------	0.10 (1.21)*	0.13 (1.38)*	0.13 (1.61)*	0.14 (1.18)*	$R_2 = 0.99$
W	2.03		------	0.03 (0.38)	0.03 (0.47)	0.04 (0.37)	$R_3 = 1.05$
LC	2.06			------	0.00 (0.00)	0.01 (0.09)	$R_4 = 1.09$
SP	2.06				------	0.01 (0.09)	$R_5 = 1.11$
RF	2.07					------	
			W	LC	SP	RF	
		S					

*Significant at the 0.05 level

Differences Among Non-Academic Non-Persisting Students Among Campuses in Terms of High School Achievement. Female non-academic non-persisting students among campuses were compared on the basis of mean grade point achieved in high school. Significant differences were found among these students among campuses and the results of this analysis are presented in Table 50.

TABLE 50. DIFFERENCES AMONG FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF THE MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	4.6	4	1.14		
Within grps	312.6	730	0.43	2.65	0.01
Total	317.2	734			

Since significant differences were found among female non-academic non-persisting students among campuses, Duncan's New Multiple Range Test was applied to the data in an effort to discern the location of the variance. The results of this statistical application are shown in Table 51.

According to the results indicated in Table 51, two subsets of campuses were developed. Female non-academic non-persisting students who were enrolled on the campuses located at Whitewater, River Falls, Stout, and Stevens Point formed one subset of campuses. Female non-academic non-persisting students who were enrolled on the campuses located at River Falls, Stout, Stevens Point, and LaCrosse comprised the second subset of campuses. These results indicated that the significant variance ratio which had been revealed in Table 50 could be attributed to the differences between female non-academic non-persisting students enrolled on the campus located at LaCrosse and those were enrolled on the campus located at Whitewater. Female non-academic non-persisting students who were enrolled on the campus located at LaCrosse tended to achieve a significantly higher mean grade point average in high school than did similar students who were enrolled on the campus at Whitewater.

TABLE 51. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Campus	**Means**	W (N = 231)	RF (N = 79)	S (N = 132)	SP (N = 106)	LC (N = 182)	Shortest significant ranges
		2.59	2.62	2.64	2.70	2.78	
W	2.59	------	0.03 (0.33)	0.04 (0.52)	0.11 (1.05)	0.19 (3.25)*	$R_2 = 2.40$
RF	2.62		------	0.02 (0.20)	0.08 (0.76)	0.16 (1.68)	$R_3 = 2.51$
S	2.64			------	0.06 (0.65)	0.14 (1.73)	$R_4 = 2.57$
SP	2.70				------	0.08 (0.93)	$R_5 = 2.63$
LC	2.78					------	
			RF	**S**	**SP**	**LC**	
		W	**RF**	**S**	**SP**		

***Significant at the 0.01 level**

Table 52 presents the differences among male non-academic non-persisting students among campuses on the basis of mean grade point achieved in high school. As the results presented in Table 52 indicate, there were no significant differences found among male non-academic non-persisting students among campuses.

TABLE 52. DIFFERENCES AMONG MALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF MEAN GRADE POINT ACHIEVED IN HIGH SCHOOL

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Between grps	1.1	4	0.27		
Within grps	276.8	791	0.35	0.77	NS
Total	277.9	795			

Summary of Differences Among Campuses in Terms of High School Achievement. Significant differences were found among campuses in terms of mean grade point achieved in high school by male and female persisting and academic non-persisting students. Significant differences were found among campuses among female non-academic non-persisting students but not among male non-academic non-persisting students in terms of mean grade point achieved in high school.

Analysis of College Achievement

A purpose of this investigation was to seek out differences among persisting and non-persisting students on the basis of college achievement. College achievement was defined in terms of the total number of credits earned, credits attempted, and grade points achieved by the persisting and non-persisting students among campuses.

One of the five campuses investigated, River Falls, based their academic year on three quarters rather than two semesters. Because of this variance, River Falls was withdrawn from these series of analyses.

Since significant differences had been indicated among persisting and non-persisting subgroups as well as between male and female students among campuses on the basis of previous variables, six subgroups were identified for the analysis of each of the achievement variables. The results of these analyses are presented according to persisting and non-persisting student status.

Differences Among Persisting Students Among Campuses. Table 53 presents the differences among male persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved in college. As the results in Table 53 indicate, significant differences were found among male persisting students among campuses on the basis of credits earned and credits attempted. However, no significant differences were found among these same students with regard to grade points achieved.

TABLE 53. DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED, CREDITS ATTEMPTED, AND GRADE POINTS ACHIEVED

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Credits earned	Between grps	2269.7	3	756.6		
	Within grps	40543.2	2027	20.0	37.8	0.01
	Total	42812.9	2030			
Credits attempted	Between grps	1969.6	3	656.5		
	Within grps	30430.8	2027	15.0	43.7	0.01
	Total	32400.4	2030			
Grade points achieved	Between grps	12541.2	3	418.1		
	Within grps	745309.7	2027	376.7	1.11	NS
	Total	757850.9	2030			

The results of the application of Duncan's New Multiple Range Test to the differences reflected in Table 53 on the basis of credits earned is presented in Table 54. According to these results, three distinct subgroups of students were identified.

Male persisting students who were enrolled on the campus located at LaCrosse tended to earn a significantly lower mean number of credits earned than did similar students who were enrolled on the campuses located at Stevens Point, Whitewater, and Stout. While there did not appear to be any significant differences among male persisting students enrolled on the campuses located at Stevens Point and Stout, nor among male persisting students who were enrolled at Stout and Whitewater, male persisting students enrolled on the campus located at Whitewater tended to earn a significantly higher mean number of credits earned than did their counterparts who were enrolled on the campus at Stevens Point.

TABLE 54. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED

Campus		LC (N = 486)	SP (N = 581)	W (N = 684)	S (N = 280)	Shortest significant ranges
	Means	28.44	30.06	31.07	31.12	
LC	28.44	------	1.62 (33.91)*	2.63 (62.69)*	2.68 (50.52)*	R_2 = 16.39
SP	30.06		------	1.01 (20.28)*	1.06 (11.01)	R_3 = 17.08
W	31.07			------	0.05 (9.99)	R_4 = 17.55
S	31.12				------	
				S	W	
			SP	S		
		LC				

*Significant at the 0.01 level

Table 55 presents the results of the application of Duncan's New Multiple Range Test to the differences among male persisting students among campuses on the basis of credits attempted. The results reflected in Table 55 tend to parallel those indicated in Table 54. In each instance three distinct subsets of students were identified. Again, male persisting students who were enrolled on the campus located at Whitewater tended to achieve a significantly higher mean number of credits attempted than did their counterparts who were enrolled on the campus located at Stevens Point. Furthermore, male persisting students who were enrolled on the campus located at LaCrosse tended to achieve a significantly lower mean number of credits attempted than did their counterparts on any of the other campuses. Male persisting students who were enrolled on the campus located at Stout did not differ significantly from their counterparts who were enrolled on the campus located at either Whitewater or Stevens Point.

TABLE 55. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS ATTEMPTED

Campus	Means	LC (N = 486)	SP (N = 581)	W (N = 684)	S (N = 280)	Shortest significant ranges
		29.28	30.64	31.66	31.88	
LC	29.28	------	1.36 (28.46)*	2.38 (56.74)*	2.60 (49.01)*	R_2 = 14.09
SP	30.64		------	1.02 (20.48)*	1.24 (12.88)	R_3 = 14.69
W	31.66			------	0.22 (4.40)	R_4 = 15.09
S	31.88				------	
				S	W	
			SP	S		
		LC				

*Significant at the 0.01 level

Table 56 indicates the differences among female persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved in the various universities. According to the results presented in Table 56, significant differences were found among female persisting students among campuses on the basis of all three achievement variables.

TABLE 56. DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED, CREDITS ATTEMPTED, AND GRADE POINTS ACHIEVED

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Credits earned	Between grps	600.3	3	200.0		
	Within grps	35033.5	1636	21.4	9.35	0.01
	Total	35633.8	1639			
Credits attempted	Between grps	1352.6	3	450.9		
	Within grps	31295.8	1636	19.1	23.60	0.01
	Total	32648.4	1639			
Grade points achieved	Between grps	4826.0	3	1608.7		
	Within grps	800541.9	1636	489.3	3.28	0.05
	Total	805367.9	1639			

The application of Duncan's New Multiple Range Test applied to the differences among female persisting students among campuses on the basis of credits earned revealed three distinct subsets of students. These results are presented in Table 57.

According to the results presented in Table 57, female persisting students who were enrolled on the campus located at LaCrosse tended to earn a significantly lower mean number of credits earned than did their counterparts on any of the other campuses. Female persisting students who were enrolled on the campus located at Stevens Point, while tending to earn a significantly higher mean number of credits earned than their counterparts enrolled on the campus located at LaCrosse, tended to achieve a significantly lower mean number of credits earned than did similar students who were enrolled on the campuses located at Whitewater and Stout. There were no significant differences revealed among female persisting students who were enrolled on the campuses located at Whitewater and Stout even though each of these two subgroups of female persisting students tended to earn a significantly higher mean number of credits earned than did similar students enrolled on the campuses located at LaCrosse and Stevens Point.

TABLE 57. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED

Campus	Means	LC (N = 435)	SP (N = 390)	W (N = 547)	S (N = 268)	Shortest significant ranges
		30.22	30.31	31.55	31.60	
LC	30.22	------	0.09 (18.25)*	1.33 (29.27)*	1.38 (25.13)*	R_2 = 16.83
SP	30.31		------	1.24 (26.46)*	1.29 (22.99)*	R_3 = 17.54
W	31.55			------	0.05 (9.48)	R_4 = 18.02
S	31.60				------	

W S

SP

LC

*Significant at the 0.01 level

There were two distinct subgroups of students identified when Duncan's New Multiple Range Test was applied to the differences among female persisting students among campuses on the basis of credits attempted. These results are presented in Table 58.

According to the results presented in Table 58, female persisting students who were enrolled on the campuses located at LaCrosse and Stevens Point did not differ significantly in terms of the mean number of credits attempted. However, these same students tended to achieve a significantly lower mean number of credits attempted than did their counterparts who were enrolled on the campuses located at Stout and Whitewater. Female persisting students who were enrolled on the campuses located at Stout and Whitewater did not vary significantly.

TABLE 58. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS ATTEMPTED

Campus	Means	LC (N = 435)	SP (N = 390)	S (N = 268)	W (N = 547)	Shortest significant ranges
		30.82	30.85	31.92	32.07	
LC	30.82	------	0.03 (6.08)	1.10 (20.03)*	1.25 (27.51)*	R_2 = 15.88
SP	30.85		------	1.07 (19.07)*	1.22 (26.03)*	R_3 = 16.55
S	31.92			------	0.15 (2.84)	R_4 = 17.00
W	32.07				------	
				S	W	
		LC	SP			

*Significant at the 0.01 level

Table 59 presents the results of the application of Duncan's New Multiple Range Test to the differences among female persisting students among campuses on the basis of the total grade points achieved while enrolled on the various campuses investigated. According to these results, three distinct subgroups of students were revealed.

The results presented in Table 59 tended to indicate that students enrolled on the campus located at Whitewater tended to achieve a significantly higher mean number of grade points achieved while enrolled than did the female persisting student who was enrolled on the campus located at Stevens Point. However, female persisting students who were enrolled on the campus located at Whitewater did not vary significantly from similar students who were enrolled on the campuses located at Stout and LaCrosse with regard to mean number of grade points achieved. Female persisting students who were enrolled on the campus located at Stout seemed to achieve a significantly higher mean number of grade points while enrolled than did similar students who were enrolled on the campus located at LaCrosse. Female persisting students who were enrolled on the campus located at Stevens Point did not seem to vary significantly from their counterparts who were enrolled on the campuses located at LaCrosse and Stout.

TABLE 59. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF GRADE POINTS ACHIEVED

Campus	Means	SP (N = 390)	LC (N = 435)	W (N = 547)	S (N = 268)	Shortest significant ranges
		76.54	77.29	79.39	83.16	
SP	76.54	-------	0.75 (15.21)	2.85 (60.82)*	6.62 (51.77)	$R_2 = 61.32$
LC	77.29		-------	2.10 (46.22)	5.87 (106.89)*	$R_3 = 64.55$
W	79.39			------	(58.21)	$R_4 = 66.74$
S	83.16				------	
				S	W	
			SP	S		
		LC	SP			

*Significant at the 0.05 level

Differences Among Academic Non-Persisting Students Among Campuses. The differences among male academic non-persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved while enrolled in the various institutions investigated are presented in Table 60. According to these results, there were significant differences found among male academic non-persisting students among campuses on the basis of all of the college achievement variables.

TABLE 60. DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED, CREDITS ATTEMPTED, AND GRADE POINTS ACHIEVED

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Credits earned	Between grps	4704.6	3	1568.1		
	Within grps	52627.9	810	64.9	24.1	0.01
	Total	57432.5	813			
Credits attempted	Between grps	3882.5	3	1294.2		
	Within grps	29395.1	810	36.3	35.7	0.01
	Total	33277.6	813			
Grade points achieved	Between grps	14917.2	3	4972.4		
	Within grps	236516.0	810	291.9	17.03	0.01
	Total	251433.2	813			

Three distinct subgroups of students were revealed when Duncan's New Multiple Range Test was applied to the data regarding the differences among male academic non-persisting students among campuses on the basis of mean credits earned. These results are presented in Table 61.

TABLE 61. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED

Campus	Means	LC (N = 178)	SP (N = 282)	W (N = 224)	S (N = 130)	Shortest significant ranges
		16.88	19.55	21.31	24.45	
LC	16.88	------	2.67 (39.41)*	4.43 (59.45)*	7.57 (92.73)*	$R_2 = 29.36$
SP	19.55		------	1.76 (27.79)	4.90 (65.36)*	$R_3 = 30.59$
W	21.31			------	3.14 (40.25)*	$R_4 = 31.43$
S	24.45				------	

S

SP W

LC

*Significant at the 0.01 level

According to these results, male academic non-persisters who were enrolled on the campus located at Stout achieved a significantly higher mean number of credits earned than their counterparts who were enrolled on the campuses located at LaCrosse, Stevens Point, and Whitewater. Male academic non-persisting students who were enrolled on the campuses located at Stevens Point and Whitewater did not appear to differ significantly on the basis of mean credits earned even though they did achieve a significantly lower mean number of credits earned than did their counterparts on the campus located at Stout and a significantly higher mean number of credits earned than did similar students who were enrolled on the campus located at LaCrosse. Male academic non-persisting students who were enrolled on the campus located at LaCrosse tended to earn a significantly lower mean number of credits earned than did similar students who were enrolled on either of the three other campuses.

The differences among male academic non-persisting students among campuses on the basis of mean number of credits attempted were analyzed utilizing Duncan's New Multiple Range Test. These results are presented in Table 62.

TABLE 62. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS ATTEMPTED

Campus	Means	LC (N = 178)	SP (N = 282)	W (N = 224)	S (N = 130)	Shortest significant ranges
		24.44	25.71	29.53	29.83	
LC	24.44	------	1.27 (18.75)	5.09 (68.31)*	5.39 (66.03)*	R_2 = 20.98
SP	25.71		------	3.82 (60.31)*	4.12 (54.96)*	R_3 = 21.86
W	29.53			------	0.30 (3.85)	R_4 = 22.46
S	29.83				------	
				W	S	
		LC	SP			

*Significant at the 0.01 level

As the results presented in Table 62 indicate, two distinct subgroups of students were indicated. Male academic non-persisting students who were enrolled on the campuses located at Stout and Whitewater did not vary significantly from each other on the basis of mean number of credits attempted. However, these same students who were enrolled on the campuses located at Whitewater and Stout tended to achieve a significantly higher mean number of credits attempted than did their counterparts who were enrolled on the campuses located at LaCrosse and Stevens Point. Male academic non-persisting students who were enrolled on the campuses located at Stevens Point and LaCrosse, while not differing significantly from each other, did achieve a significantly lower mean number of credits attempted than did similar students who were enrolled on the other two campuses.

Table 63 presents the results of the application of Duncan's New Multiple Range Test to the differences among male academic non-persisting students among campuses on the basis of the total grade points achieved while enrolled in the institution.

According to the results presented in Table 63, male academic non-persisting students who were enrolled on the campus located at Stout tended to achieve a significantly higher mean number of grade points than did similar students who were enrolled on the campuses located at LaCrosse, Stevens Point, and Whitewater. Male academic non-persisting students who were enrolled on the campuses located at LaCrosse, Stevens Point, and Whitewater did not appear to vary significantly on the basis of the mean number of grade points achieved while enrolled on these campuses.

TABLE 63. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG MALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF GRADE POINTS ACHIEVED

Campus	Means	LC (N = 178)	SP (N = 282)	W (N = 224)	S (N = 130)	Shortest significant ranges
		29.41	33.21	33.54	43.02	
LC	29.41	------	3.80 (56.09)	4.13 (55.42)	13.61 (166.72)*	R_2 = 62.22
SP	33.21		------	0.33 (5.21)	9.81 (130.80)*	R_3 = 64.83
W	33.54			------	9.49 (121.67)*	R_4 = 66.61
S	43.02				------	
					S	
		LC	SP	W		

*Significant at the 0.01 level

Table 64 presents the differences among female academic non-persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved while enrolled on the various campuses investigated. According to the results presented in Table 64, significant differences were indicated among female academic non-persisting students among campuses on the basis of all three college achievement variables.

TABLE 64. DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED, CREDITS ATTEMPTED, AND GRADE POINTS ACHIEVED

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Credits earned	Between grps	2430.3	3	810.1	13.5	0.01
	Within grps	23876.3	398	59.9		
	Total	26306.6	401			
Credits attempted	Between grps	2000.6	3	666.9	28.5	0.01
	Within grps	9298.9	398	23.4		
	Total	11299.5	401			
Grade points achieved	Between grps	6712.4	3	2237.4	11.6	0.01
	Within grps	76616.9	398	192.5		
	Total	83329.3	401			

The application of Duncan's New Multiple Range Test to the differences among female academic non-persisting students among campuses on the basis of mean credits earned is presented in Table 65. According to these results, female academic non-persisting students who were enrolled on the campus located at Stout tended to achieve a significantly higher mean number of credits earned than did their counterparts who were enrolled on the campuses located at LaCrosse, Stevens Point, and Whitewater. Furthermore, female academic non-persisting students who were enrolled on the campus located at Whitewater tended to achieve a significantly higher mean number of credits earned than did similar students who were enrolled on the campus located at LaCrosse. There were no significant differences indicated among female academic non-persisting students who were enrolled on the campus at Stevens Point and similar students who were enrolled on the campuses located at either Whitewater or LaCrosse.

TABLE 65. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED

Campus	Means	LC (N = 97)	SP (N = 76)	W (N = 200)	S (N = 29)	Shortest significant ranges
		18.65	20.54	22.03	28.79	
LC	18.65	------	1.89 (17.54)	3.38 (38.60)*	10.14 (67.63)*	R_2 = 28.19
SP	20.54		------	1.49 (15.63)	8.25 (53.46)*	R_3 = 29.38
W	22.03			------	6.76 (48.06)*	R_4 = 30.19
S	28.79				------	
					S	
			SP	W		
		LC	SP			

*Significant at the 0.01 level

Table 66 presents the application of Duncan's New Multiple Range Test to the differences among female academic non-persisting students among campuses on the basis of credits attempted. According to these results, female academic non-persisting students who were enrolled on the campuses located at Whitewater and Stout did not vary significantly on the basis of the mean number of credits attempted. However, these same students tended to attempt a significantly higher mean number of credits while they were enrolled on their respective campuses than did their female academic non-persisting counterparts who were enrolled on the campuses located at LaCrosse and Stevens Point. The female academic non-persisting students who were enrolled on the campuses located at LaCrosse and Stevens Point did not appear to vary significantly with regard to the mean number of credits attempted while enrolled.

TABLE 66. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS ATTEMPTED

Campus	Means	LC (N = 97)	SP (N = 76)	W (N = 200)	S (N = 29)	Shortest significant ranges
		25.43	26.62	30.12	31.69	
LC	25.43	------	1.19 (11.04)	4.69 (53.56)*	6.26 (41.75)*	R_2 = 17.59
SP	26.62		------	3.50 (36.72)*	5.07 (32.85)*	R_3 = 18.33
W	30.12			------	1.57 (11.16)	R_4 = 18.83
S	31.69				------	
				W	S	
		LC	SP			

*Significant at the 0.01 level

With regard to the mean number of grade points achieved while enrolled on the various campuses investigated, female academic non-persisting students who were enrolled on the campus located at Stout tended to achieve a significantly higher mean number of grade points than did their counterparts who were enrolled on the campuses located at LaCrosse, Whitewater, and Stevens Point. However, female academic non-persisting students who were enrolled on the campuses located at LaCrosse, Whitewater, and Stevens Point did not appear to vary significantly on the basis of mean number of grade points achieved. These results are presented in Table 67.

TABLE 67. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF GRADE POINTS ACHIEVED

Campus	Means	LC (N = 97)	W (N = 200)	SP (N = 76)	S (N = 29)	Shortest significant ranges
		33.86	34.38	35.27	50.12	
LC	33.86	------	0.52 (5.94)	1.41 (13.08)	16.26 (108.45)*	$R_2 = 50.53$
W	34.38		------	0.89 (9.34)	15.74 (111.90)*	$R_3 = 52.65$
SP	35.27			------	14.85 (96.23)*	$R_4 = 54.09$
S	50.12				------	
		LC	W	SP	S	

*Significant at the 0.01 level

Differences Among Non-Academic Non-Persisting Students. Table 68 presents the differences among male non-academic non-persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved while enrolled in the various institutions investigated. According to the results presented in Table 68, there were no significant differences found among male non-academic non-persisting students among campuses on the basis of any of the college achievement variables used in this investigation.

The differences among female non-academic non-persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved while enrolled in the various institutions investigated are presented in Table 69. As these results indicate, there were no significant differences found among female non-academic non-persisting students among campuses on the basis of mean number of credits earned and credits attempted. However, there were significant differences found among female non-academic non-persisting students among campuses on the basis of the mean number of grade points achieved while enrolled in the compared universities.

TABLE 68. DIFFERENCES AMONG MALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED, CREDITS ATTEMPTED, AND GRADE POINTS ACHIEVED

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Credits earned	Between grps	516.2	3	172.70		
	Within grps	55406.6	561	98.80	1.74	NS
	Total	55922.8	564			
Credits attempted	Between grps	136.9	3	45.63		
	Within grps	45482.2	561	81.07	0.56	NS
	Total	45619.1	564			
Grade points achieved	Between grps	4472.6	3	1490.90		
	Within grps	438944.8	561	782.4	1.91	NS
	Total	443317.4	564			

TABLE 69. DIFFERENCES AMONG FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF CREDITS EARNED, CREDITS ATTEMPTED, AND GRADE POINTS ACHIEVED

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Credits earned	Between grps	575.3	3	191.8		
	Within grps	51620.2	589	87.6	2.2	NS
	Total	52195.5	592			
Credits attempted	Between grps	166.4	3	55.5		
	Within grps	40644.0	589	69.0	0.8	NS
	Total	40810.4	592			
Grade points achieved	Between grps	11761.8	3	3920.6		
	Within grps	505153.4	589	857.6	4.6	0.01
	Total	516925.2	592			

The application of Duncan's New Multiple Range Test to the differences among female non-academic non-persisting students among campuses on the basis of mean number of grade points achieved while enrolled on the various campuses investigated is presented in Table 70. According to these results, the female non-academic non-persisting students who were enrolled on the campus located at Whitewater tended to achieve a significantly lower number of grade points than did their counterparts who were enrolled on the campus located at Stout. There were no significant differences identified among female non-academic non-persisting students who were enrolled on the campuses located at Whitewater, LaCrosse, and Stevens Point on the basis of mean number of grade points achieved. Furthermore, there were no significant differences found among female non-academic non-persisting students who were enrolled on the campuses located at LaCrosse, Stevens Point, and Stout on the basis of this same achievement variable.

TABLE 70. DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE DIFFERENCES AMONG FEMALE NON-ACADEMIC NON-PERSISTING STUDENTS AMONG CAMPUSES ON THE BASIS OF GRADE POINTS ACHIEVED

Campus	Means	W (N = 233)	LC (N = 166)	SP (N = 107)	S (N = 87)	Shortest significant ranges
		52.54	53.84	57.12	65.67	
W	52.54	------	1.30 (16.18)	4.58 (55.42)	13.13 (147.70)*	R_2 = 106.70
LC	53.84		------	3.28 (37.39)	11.83 (12.63)	R_3 = 111.18
SP	57.12			------	8.55 (83.70)	R_4 = 114.23
S	65.67				------	
			LC	SP	S	
		W	LC	SP		

*Significant at the 0.01 level

Analysis of Non-Intellective Characteristics

A fourth purpose of this investigation was to seek out the nature and extent of the diversity of personal non-intellective characteristics among persisting and non-persisting students. In order to achieve this purpose, persisting and non-persisting students were compared on the basis of personal non-intellective characteristics which were gathered through two major sources. Each persisting and non-persisting student had responded to the American College Testing Program (ACT) in which they had indicated their tentative decisions regarding educational major, vocational choice, vocational role preferences, and educational plans. After each persisting and non-persisting student had enrolled on his repsective campus, data were collected regarding any change of academic major, place of college residence, and the size of high school graduating class. The discussion of the results within this section will be presented in this order.

Differences Among Persisting and Non-Persisting Students on the Basis of Sex. The differences between the number of male and female students in terms of their persistence in all the universities investigated are presented in Table 71.

The results presented in Table 71 suggest there were fewer male persisting students than expected with more female students than expected who persisted in the five universities studied. Also, there seemed to be fewer male students than expected and more female students than anticipated who did not persist because of non-academic reasons. However, there appeared to be more male students and fewer female students than expected who did not persist in the five schools for academic concerns. These results are in the expected direction.

TABLE 71. DIFFERENCES BETWEEN MALE AND FEMALE STUDENTS FROM ALL CAMPUSES ON THE BASIS OF PERSISTENCE

	Male		Female		
	Obs	Exp	Obs	Exp	Total
Persisting	2424	2459	1838	1803	4269
Academic NP	866	742	419	543	1285
Non-academic NP	706	795	672	583	1378
Total	3996		2929		6925

Degrees of Freedom	2
Chi Square	74.44

Significant at the 1% level of confidence

Differences Among Persisting and Non-Persisting Students on the Basis of Educational Major. Table 72 presents the results of the differences among male persisting and non-persisting students on the basis of educational major.

As these results indicate, there appeared to be more male persisting and academic non-persisting students than anticipated but fewer male students than expected who did not persist because of non-academic reasons who were majoring in fields associated with the social, religious, and educational fields. This same observation may be made with respect to those students majoring in the administrative, political, and persuasive fields.

In the scientific fields, there seemed to be more male persisting students than expected but fewer male non-persisting students than anticipated--regardless of the reason for their non-persistence.

Male persisting students were observed less frequently than expected but male non-persisting students more frequently than anticipated who had selected a major area of study which could be classified as being engineering, agriculture, or technology. This same observation may be made with regard to the male persisting and non-persisting students who were studying in the area of the arts and humanities.

TABLE 72. DIFFERENCES AMONG MALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF EDUCATIONAL MAJOR

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Social, Religious, and Educational Fields	382	376	133	127	117	129	632
Administrative, Political, and Persuasive	278	275	98	92	86	95	462
Business and Finance	231	234	81	80	82	80	394
Scientific Fields	225	212	68	71	63	73	356
Engineering, Agriculture and Technology	538	565	209	191	204	195	951
Medical Fields	116	114	35	38	40	39	191
Arts and Humanities	115	131	46	44	59	45	220
Other	32	35	6	11	20	12	58
Undecided	464	439	125	149	148	151	737
Total	2381		801		819		4001

Degrees of Freedom	16
Chi Square	27.523

Significant at the 5% level

The male persisting student who was undecided about his academic major was found more frequently than anticipated whereas the male non-persister was observed less frequently than expected.

Table 73 presents the differences among female persisting and non-persisting students on all campuses on the basis of educational major.

As the results in Table 73 indicate, there were more female persisting and academic non-persisting students than anticipated who had indicated a major in a social, religious, or educational field. However, there tended to be fewer female students than expected who were majoring in one of these areas but who did not persist because of non-academic reasons.

Female persisting students who were majoring in a field associated with business or finance tended to be observed less frequently than anticipated, but female non-persisters who did not persist because of non-academic reasons and who were majoring in similar areas were observed more frequently than expected.

There appeared to be fewer female persisting students and slightly fewer female academic non-persisters than expected who were focusing their study in the medical fields. On the other hand, there seemed to be more female students than expected in these areas who did not persist because of non-academic reasons.

The results presented in Table 73 suggest that there were more female persisting students than expected majoring in fields associated with the arts and humanities but slightly fewer female non-persisting students than expected studying in these same areas--regardless of the reason for non-persistence.

There seemed to be fewer female persisting students as well as academic non-persisting students than anticipated who were not able to make a decision with respect to an educational major. However, there appeared to be more female students than expected who did not persist because of non-academic reasons and who had indicated being undecided about an academic major.

Summary. Based on the results presented in Tables 72 and 73, persistence seemed to be favored by an educational major that was consistent with the purposes of most of the institutions investigated. Students who planned to major in an area associated with the scientific fields seemed to persist more frequently than anticipated. Female students who intended to major in an area associated with the arts and humanities tended to persist more frequently than expected but male students tended to persist less frequently than anticipated. The results seemed to indicate that being undecided about an educational major may favor persistence among male students but not among female students.

TABLE 73. DIFFERENCES AMONG FEMALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF EDUCATIONAL MAJOR

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Social, Religious, and Educational Fields	1074	1048	244	217	377	430	1695
Administrative, Political, and Persuasive	61	61	13	13	25	25	99
Business and Finance	68	79	15	16	45	33	128
Scientific Fields	68	61	4	13	27	25	99
Engineering, Agriculture and Technology	1	1	0	0	1	1	2
Medical Fields	124	147	28	30	85	60	237
Arts and Humanities	169	157	25	33	60	64	254
Other	20	23	9	5	9	10	38
Undecided	229	237	38	49	116	97	383
Total	1814		376		745		2935

Degrees of Freedom	16
Chi Square	45.116

Significant at the 1% level

Differences Among Persisting and Non-Persisting Students on the Basis of Vocational Choice. The results presented in Table 74 show the differences among persisting and non-persisting male students on all campuses on the basis of vocational choice. While there were no significant differences indicated, the direction of the results will be discussed because of possible implications for future research. According to these results, there tended to be more male persisting students than expected who had selected an occupational area which might be associated with the social, religious, or educational fields. On the other hand, there appeared to be fewer non-persisting male students--regardless of their reason for non-persistence--than anticipated who had indicated a vocational choice which might be related to these same three fields.

There seemed to be slightly fewer persisting and non-persisting male students than expected who had indicated a vocational choice in the fields of administration, politics, or persuasion. The same observation could be made with regard to the vocational fields of business, finance, and science.

There appeared to be fewer persisting male students than anticipated who had revealed an occupational decision which might be related to engineering, agriculture, or technology. The same observation could be made with regard to the male student who did not persist because of non-academic reasons. However, there tended to be more male students than expected who did not persist because of academic reasons but who had indicated a vocational choice of a field that might be related to these same three areas.

There seemed to be more persisting and slightly fewer academic non-persisting male students than expected who had selected a vocation in one of the medical fields.

Non-persisting male students--regardless of the reason for non-persistence--were observed slightly more frequently than expected where the vocational choice could be related to the arts and humanities. Within this same vocational area, persisting male students were observed less frequently than anticipated.

Persisting male students seemed to indicate being undecided about their vocation more frequently than expected. This same observation might be made with regard to the male non-persister who withdrew because of non-academic reasons. However, there seemed to be fewer academic non-persisting male students than anticipated who had not developed a clear concept regarding their future occupation.

The results presented in Table 75 reveal the differences among female persisting and non-persisting students on all campuses on the basis of vocational choice.

These results seemed to indicate that there were more persisting female students than expected who indicated a vocational decision which might be related to social, religious, or educational fields. There appeared to be fewer female non-persisting students--regardless

TABLE 74. DIFFERENCES AMONG MALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF VOCATIONAL CHOICE

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Social, Religious, and Educational Fields	386	363	113	122	110	124	609
Administrative, Political, and Persuasive	192	186	61	62	59	64	312
Business and Finance	171	175	62	58	60	60	293
Scientific Fields	97	100	37	34	34	34	168
Engineering, Agriculture and Technology	457	472	182	158	153	162	792
Medical Fields	122	116	31	38	41	40	194
Arts and Humanities	104	118	49	40	45	40	198
Housewife	2	2	0	0	0	0	2
Other	146	159	54	54	68	55	268
Undecided	641	627	187	210	223	214	1051
Total	2318		776		793		3887

Degrees of Freedom	18
Chi Square	22.928

Not Significant

TABLE 75. DIFFERENCES AMONG FEMALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF VOCATIONAL CHOICE

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Social, Religious, and Educational Fields	975	934	203	196	339	387	1517
Administrative, Political, and Persuasive	57	57	9	12	27	24	93
Business and Finance	36	51	17	11	30	21	83
Scientific Fields	33	26	3	5	6	11	42
Engineering, Agriculture and Technology	0	0	0	0	1	1	2
Medical Fields	139	154	27	32	84	64	250
Arts and Humanities	87	92	23	21	40	37	150
Housewife	21	25	5	5	14	10	40
Other	98	104	32	22	39	43	169
Undecided	318	321	52	67	150	132	520
Total	1764		371		729		2864

Degrees of Freedom 18

Chi Square 45.047

Significant at the 1% level

of the reason for non-persistence--than expected who had decided that their future vocation would be within one of these same three areas.

The results presented in Table 75 tended to reveal that any variance among persisting and non-persisting students who had decided that their vocational area would be within the fields of engineering, agriculture, or technology probably could be attributed to the male population within the five universities.

There appeared to be fewer persisting and academic non-persisting female students than expected who had selected a vocation associated with one of the medical fields. However, there seemed to be more female students than expected who had indicated their vocation in one of these medical fields but who had not persisted because of non-academic reasons.

According to the results presented in Table 75, there seemed to be fewer persisting and academic non-persisting female students than expected who were undecided about their future vocation. On the other hand, there appeared to be more female students indicating indecision regarding their future career but who did not persist because of non-academic reasons.

Summary. According to the results presented in Tables 74 and 75, persistence seemed to be favored among students if they are planning on a vocation which is associated with the educational emphasis that is found in the five universities investigated. Persistence within the university does not seem to be favored by students who had elected a vocation which might be associated with the fields of engineering, agriculture, technology, or the arts and humanities. Male students who had elected a vocational choice associated with the medical fields seemed to be found more frequently than anticipated whereas the female student who had elected a career in one of the various medical fields appeared to be found more frequently among those students who had not persisted for non-academic reasons.

As was indicated in the results presented in Tables 72 and 73, being undecided about a vocational choice seemed to favor persisting male students and not female students. Furthermore, if the undecided male or female student does not persist, the reasons may well be non-academic.

Differences Among Persisting and Non-Persisting Students on the Basis of Vocational Role Preferences. Male persisting and non-persisting students on all campuses were compared on the basis of their vocational role preferences. The results of this comparison are presented in Table 76. According to these results, there were no significant differences between the observed and expected number of male persisting and non-persisting students within each of the vocational role preference categories.

Table 77 shows the results of the differences among female persisting and non-persisting students on all campuses on the basis of their preferences for a vocational role.

TABLE 76. DIFFERENCES AMONG MALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF VOCATIONAL ROLE PREFERENCES

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Researcher or Investigator	218	220	75	74	76	75	369
Teacher or Therapist	475	459	147	152	145	156	767
Administrator or Supervisor	283	278	102	93	80	94	465
Promoter or Salesman of Services or Products	100	101	32	34	37	34	169
Practitioner, Performer, Producer of Services or Products	387	378	127	127	120	120	634
None of the Above	198	226	86	76	95	77	379
Two or More Roles	74	73	21	25	28	25	123
Undecided	575	575	184	193	205	196	964
Total	2310		774		786		3870

Degrees of Freedom 14

Chi Square 16.663

Not Significant

TABLE 77. DIFFERENCES AMONG FEMALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF VOCATIONAL ROLE PREFERENCES

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Researcher or Investigator	57	57	11	12	24	23	92
Teacher or Therapist	974	924	188	194	336	379	1498
Administrator or Supervisor	48	49	9	10	22	20	79
Promoter or Salesman of Services or Products	17	15	0	3	7	6	24
Practitioner, Performer, Producer of Services or Products	166	180	45	38	80	74	291
None of the Above	103	136	47	29	70	56	220
Two or More Roles	63	59	12	13	22	25	97
Undecided	322	330	56	69	157	135	535
Total	1750		368		718		2836

Degrees of Freedom 14

Chi Square 44.132

Significant at the 1% level

Based on these results, there seemed to be more female persisting students than anticipated who preferred the occupational role of a teacher or therapist. There tended to be fewer non-persisting students than expected--regardless of reason for non-persistence--who preferred these same vocational roles.

Fewer female persisting students than expected indicated a preference for a vocational role that might be associated with a practitioner, performer, or producer of services of products. However, slightly more non-persisting female students than expected expressed a preference for one of these roles.

There appeared to be fewer female persisting students than expected who indicated that they preferred an occupational role other than those listed whereas more female non-persisters than anticipated indicated that the alternatives of vocational roles did not reflect their preferences.

Female persisting students as well as female academic non-persisters tended to be observed less frequently than expected as being undecided with regard to a vocational role preference. However, female students who did not persist because of non-academic reasons were observed more often than anticipated as being undecided about a preferred occupational role.

Summary. Persistence seems to be favored among female students if they prefer a teacher-therapist role in their future vocation. This vocational role tends to be quite consistent with the goals of the five institutions investigated. Non-persistence tends to be favored if the female student prefers a vocational role which may be more closely aligned with practitioner, performer, or producer of services. Based on the data presented in Table 77, persisting female students on all the campuses seemed to be more able to identify a vocational role preference. As was indicated with the analysis of the results dealing with educational major and vocational choice, being undecided about a vocational role preference does not seem to facilitate persistence among female students. The results seem to indicate that the female student, if she is undecided about a vocational role preference, will probably not persist within the institution and might well be expected to withdraw for reasons other than those that might be related to academic concerns.

Differences Among Persisting and Non-Persisting Students on the Basis of Educational Plans. Male persisting and non-persisting students on all campuses were compared on the basis of their educational plans. Educational plans were defined as the anticipated educational degree to be obtained. The results of these comparisons are presented in Table 78.

Based on these results, the vast majority of the male students on all campuses anticipated the completion of the bachelor's degree. There seemed to be fewer male persisting students than anticipated who aspired to the receipt of the bachelor's degree but more non-persisting

TABLE 78. DIFFERENCES AMONG MALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF EDUCATIONAL PLANS

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
High School Diploma	5	7	4	2	2	2	11
College, but less than a Bachelor's Degree	332	360	142	121	130	123	604
B.A.	1286	1312	461	441	453	447	2200
M.A., M.B.A.	528	476	124	160	147	162	798
Ph.D.	39	42	14	14	17	14	70
M.D.	42	36	9	12	10	12	61
D.D.S.	25	25	8	8	9	9	42
L.L.B.	31	33	12	11	12	11	55
B.D.	5	3	0	1	0	1	5
Other	42	41	10	14	16	14	68
Total	2335		784		795		3914

Degrees of Freedom	16
Chi Square	34.122

Significant at the 1% level

male students than expected who planned on the completion of the requirements for this degree. Persisting male students tended to be observed less frequently than expected among those students who did not anticipate the completion of the bachelor's degree. On the other hand, the male non-persisting student appeared more often than expected indicating that his educational plans included college but not the completion of the bachelor's degree.

With regard to graduate study as defined by the aspiration toward the master's degree, there were more persisting male students than expected who anticipated pursuing graduate study for a master's degree. Male non-persisting students, on the other hand, were found less frequently than expected with aspirations of the completion of this same degree.

The results presented in Table 79 show the differences among female persisting and non-persisting students on all campuses on the basis of their educational plans.

A review of the results presented in Table 79 indicates that most female students did not anticipate graduate study beyond the master's degree level and, where such students are observed, they are very close to the number expected. The majority of the female students seemed to anticipate the completion of the bachelor's degree with the next greatest number of students being found in the categories of less than a college degree or the master's degree program.

There appeared to be fewer female persisting students than expected who indicated that they did not plan on completing their college program. On the other hand, there seemed to be more female non-persisting students than expected who revealed that they did not anticipate completing the four year program.

Persisting female students tended to be more likely to plan on the achievement of the bachelor's degree whereas non-persisting female students tended to be less likely to aspire to the receipt of this same degree.

There were more female students than expected who either persisted or did not persist because of non-academic reasons who seemed to anticipate the completion of the master's degree program. However, there were fewer female students than expected who were academic non-persisters who revealed that they planned to achieve this same degree.

Summary. According to the results presented in Tables 78 and 79, persisting students seemed to anticipate the completion of the four years within any of the five institutions investigated as well as holding aspirations for graduate study. Male and female students who did not persist because of academic reasons appeared to anticipate their non-persistence since they reflected that they expected to attend college but did not aspire to the completion of the four years. Furthermore, very few of the male and female academic non-persisting students held the master's degree as an educational goal. The male and

TABLE 79. DIFFERENCES AMONG FEMALE PERSISTING AND NON-PERSISTING STUDENTS ON ALL CAMPUSES ON THE BASIS OF EDUCATIONAL PLANS

	P		NPA		NPO		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
High School Diploma	3	4	1	1	3	2	7
College, but less than a Bachelor's Degree	227	286	97	60	140	118	464
B.A.	1222	1172	230	245	447	482	1899
M.A., M.B.A.	269	259	37	54	114	107	420
Ph.D.	21	19	1	4	9	8	31
M.D.	7	8	0	2	6	3	13
D.D.S.	1	1	0	0	0	0	1
L.L.B.	1	1	0	0	1	1	2
B.D.	1	1	0	0	0	0	1
Other	32	33	7	7	14	13	53
Total	1784		373		734		2891

Degrees of Freedom 16

Chi Square 59.446

Significant at the 1% level

female students who did not persist because of non-academic reasons tended to reflect a slightly higher educational aspiration since they appeared to be more likely to aspire to the master's degree than the academic non-persisters. However, the results seemed to indicate that such students may have serious questions about their persisting to the completion of the bachelor's degree and, if they aspired to the master's degree, they might be expected to have serious questions about this educational goal.

Differences Among Persisting and Non-Persisting Students on the Basis of Change of Academic Major. In the comparison among persisting and non-persisting male students on the basis of change of academic major, there were no significant differences found among the three subgroups of persistence of male students.

On the other hand, there were significant differences indicated among persisting and non-persisting female students in terms of a change of academic major. Table 80 presents these results.

Based on the results presented in Table 80, there tended to be more female persisting students than expected who did not change their academic major while there were fewer female persisting students than expected who did change their major area of study. The same trend in results appeared to be reflected with those female students who did not persist because of non-academic reasons.

However, there were fewer academic non-persisting female students than expected who remained in one major area of concentration while there were more of these same students than expected who changed their academic major.

TABLE 80. DIFFERENCES AMONG FEMALE PERSISTING AND NON-PERSISTING STUDENTS ON THE BASIS OF CHANGE OF ACADEMIC MAJOR

	Unchanged		Changed		
	Obs	Exp	Obs	Exp	Total
Persisting	1288	1274	550	564	1838
Academic NP	268	290	151	129	419
Non-academic NP	474	466	198	206	672
Total	2030		899		2929

Degrees of Freedom 2

Chi Square 6.371

Significant at the 5% level of confidence

Summary. Based on the results presented in Table 80, persistence seems to be positively related to commitment to an academic major. The finding that those female students who did not persist because of academic reasons will probably change their academic major tends to be consistent with the results presented in Tables 78 and 79, in which the academic non-persister reflected a definite doubt with regard to commitment to the completion of the four years and the bachelor's degree.

Differences Among Persisting and Non-Persisting Students on the Basis of College Residence. Table 81 shows the differences among persisting and non-persisting students enrolled on the five campuses investigated on the basis of their place of college residence.

Although the numerical differences were not extreme, the results presented in Table 81 tended to indicate that there were fewer students than expected who persisted regardless of their place of college residence. However, the results seemed to indicate that living in a campus residence hall tended to enhance the possibility of persistence since the difference between the number of observed and expected students within this category tended to be the least of any of the four possible living arrangements. There seemed to be more students than expected who tended not to persist because of academic reasons who lived in private housing or with parents and/or relatives. Conversely, there appeared to be fewer of these same type of non-persisting students than expected who lived in a university residence hall.

The results in Table 81 tended to indicate that fewer students than expected who did not persist because of non-academic reasons were living in residence halls. In contrast, there seemed to be more of these non-academic non-persisting students living in college residences other than university residence halls with the greatest discrepancy being between observed and expected numbers of students being in the category of home/parents.

Summary. Based on these results, persistence within the universities tended to be favored if the students were residing in a university-operated housing unit. Non-persistence tended to be more likely where the student was residing in either a private residence or at home living with parents or relatives. Since there appeared to be more students than expected who did not persist because of non-academic reasons living at home with parents/relatives and fewer of these same students residing in university-operated housing units, there may be some reason to believe that the involvement in campus activity may be a factor of persistence.

TABLE 81. DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON THE BASIS OF COLLEGE RESIDENCE

	Residence Hall		Private		Commute		Home/Parents		
	Obs	Exp	Obs	Exp	Obs	Exp	Obs	Exp	Total
Persisting	3350	3252	282	312	116	154	476	506	4224
Academic NP	929	980	108	94	72	47	165	153	1274
Non-academic NP	998	1045	116	100	63	50	180	162	1357
Total	5277		506		251		821		6855

Degrees of Freedom	6
Chi Square	46.02

Significant at the 1% level of confidence

Differences Among Persisting and Non-Persisting Students on the Basis of Size of High School Graduating Class. The differences among persisting and non-persisting students on all campuses on the basis of the size of high school graduating class are presented in Table 82.

The results shown in Table 82 suggest that there were more persisting students than expected who graduated from classes of 250 or fewer students while there were fewer persisting students than expected who graduated from classes of 250-750 students.

Based on the results presented in Table 82, there were fewer students than expected who did not persist because of academic reasons whose high school graduating class was 250 or fewer students while there were more of these academic non-persisting students than expected who graduated from classes of 250 students or more.

There appeared to be more students than expected who did not persist for non-academic reasons who graduated in classes of 100 or fewer students while fewer students than expected who did not persist for similar reasons graduated in high school classes of 100-500 or more students.

The results presented in Table 82 tend to suggest that the size of high school class in which the student graduated may be a factor in terms of persistence within the five universities investigated. The results seemed to indicate that students graduating from a class of 250 or fewer students may be more likely to persist in one of the universities than students who graduate from classes of 250 or more students. Furthermore, if the student who graduated from a class of 100 or fewer students does not persist, it seems likely to expect that his non-persistence is due to non-academic reasons.

TABLE 82. DIFFERENCES AMONG PERSISTING AND NON-PERSISTING STUDENTS ON THE BASIS OF SIZE OF HIGH SCHOOL GRADUATING CLASS

	0-25		26-50		51-100		101-250	
	Obs	Exp	Obs	Exp	Obs	Exp	Obs	Exp
Persisting	37	36	263	256	773	749	1515	1503
Academic NP	6	11	65	77	198	226	447	453
Non-academic NP	16	12	88	83	245	241	479	485
Total	59		416		1216		2441	

	251-500		501-750		751-9999		
	Obs	Exp	Obs	Exp	Obs	Exp	Total
Persisting	1019	1021	472	512	140	142	4219
Academic NP	320	307	189	155	47	43	1272
Non-academic NP	319	330	172	166	44	46	1363
Total	1658		833		231		6854

Degrees of Freedom	12
Chi Square	22.77

Significant at the 5% level

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to seek out the nature and extent of the diversity of the characteristics of persisting and non-persisting students within and among the various campuses of five state universities. Specifically, the study attempted to discern what diversity of intellective and non-intellective factors existed among persisting and non-persisting students within and among the selected campuses.

The total student sample (N = 7010) of this study consisted of students who were enrolled on the five campuses on a full-time basis and were classified by university standards as freshmen for the 1965-66 academic year. Essentially, the total student sample consisted of the entire freshman class of 1965-66, for whom ACT scores were available in the five state universities which participated in the investigation. The five state universities which participated in the study were located at Stevens Point, Whitewater, River Falls, LaCrosse, and Menomonie (Stout).

The 1965-66 freshman class was selected because of the availability of intellective and non-intellective pre-matriculation data. Prior to the 1965-66 academic year, some of the institutions investigated had not requested the collection and analysis of non-intellective data on their freshman classes. All institutions investigated participated in the post-enrollment analysis provided by the American College Testing Program for the entering freshman class during the 1965-66 academic year. Therefore, the sampling was delimited to the 1965-66 year in order to assure uniformity of intellective and non-intellective data.

The problem examined in this investigation was divided into four broad areas. Thus, the summary of the findings and conclusions and recommendations resulting from these findings might be best discussed in terms of the four basic areas investigated.

Diversity Among Persisting and Non-Persisting Students Among Campuses on the Basis of Scholastic Aptitude

Persisting and non-persisting students were compared, regardless of the campus on which they were enrolled, on the basis of the mean scores reflected on the various sub-scales of the ACT. In all cases, persisting students tended to achieve significantly higher mean scores on all the sub-scales than either of the two non-persisting subgroups. Furthermore, non-academic non-persisting students, while achieving a significantly lower mean score on these ACT sub-scales than the persisting students, appeared to make significantly higher mean scores than the academic non-persister.

These results seemed to be in the expected direction. Persisting students appeared to enter their various universities with a significantly higher scholastic aptitude than did their non-persisting counterparts. However, the results did indicate clearly that the ACT sub-scales did discriminate among persisting and non-persisting students. Also, while there may be some tendency to group all non-persisting students into one broad category with regard to scholastic aptitude, the results of this study tended to indicate that this should not be done. There seems to be reason to believe that the non-academic non-persisting students entered the various universities with a significantly higher scholastic aptitude than did the academic non-persister.

In the attempt to discern if there were any significant differences between male and female students on the basis of scores on the tests of scholastic aptitude, the mean scores achieved on the ACT scales were compared. Since significant differences had been identified among persisting and non-persisting students, separate analyses were made for the three categories of persisting and non-persisting students in determining the significance of any differences between male and female members of the student sample. Significant differences were identified among male and female persisting and non-persisting students.

The analysis of the differences between male and female persisting and non-persisting students seemed to indicate that the female students, regardless of persisting or non-persisting status, tended to make a significantly higher mean score on the ACT-English scale than did their male counterparts. Conversely, the male student, regardless of persistence status, tended to make a significantly higher mean score on the Mathematics and Natural Science sub-scales of the ACT. The persisting female students appeared to indicate a significantly higher mean score on the Social Science sub-scale of the ACT, whereas the male student who was a non-persister because of academic reasons tended to reflect a significantly higher mean score than did the female student for this same sub-scale.

In terms of the Composite score for the ACT, there did not appear to be any significant differences between male and female persisting students or non-persisting students who withdrew for non-academic reasons. However, male students who withdrew for academic reasons tended to reflect a significantly higher mean score on the Composite scale of the ACT than did the female student who did not persist for similar reasons.

Since significant differences had been identified among persisting and non-persisting students, as well as between male and female students, the data were partitioned into six separate subgroups where significant differences had been determined prior to the comparison of campuses on the basis of mean scores achieved on the ACT. This procedure was necessary in order to insure that any differences that might be identified among campuses in terms of mean scores achieved on the various scales of the ACT were valid and could not be attributed to either differences between male and female students or among persisting and non-persisting students. Where significant differences were determined among campuses, Duncan's New Multiple Range Test was applied to the variance ratio data in order to determine the location of the source of variance.

Significant differences were found among campuses on the basis of mean scores achieved by female persisting students on all the sub-scales of the *ACT* with the exception of the *Natural Science* scale. Furthermore, significant differences were indicated among campuses on all the sub-scales of the *ACT* in terms of mean score achieved among the male persisting student sub-samples. Based on these results, there were significant differences found among campuses with regard to scholastic aptitude of both the male and female persisting students.

Significant differences were revealed among female academic non-persisting students among campuses on the basis of the mean scores for four of the five *ACT* scales. Based on these results, the *English*, *Social Science*, *Natural Science*, and *Composite* sub-scales of the *ACT* seemed to discriminate among female academic non-persisting students among campuses. With regard to male academic non-persisting students, significant differences were found among the student sub-sample among campuses on the basis of mean scores for the *Mathematics*, *Social Science*, *Natural Science*, and *Composite* sub-scales of the *ACT*. Again, the various sub-scales of the *ACT* tended to be discriminate factors among academic non-persisting students among campuses.

There were no significant differences revealed among female non-academic non-persisting students among campuses on the basis of mean scores for the sub-scales of the *ACT*. Furthermore, only the *English* sub-scale of the *ACT* tended to differentiate among male non-academic non-persisting students among campuses. Based on these results, the various sub-scales of the *ACT* did not seem to differentiate among non-academic non-persisting students among campuses. The only exception was the *English* sub-scale of the *ACT*.

The following recommendations are made in view of the results of this study regarding scholastic aptitude. The order of recommendations is not on the basis of priority.

Based on the results, the intellective scales of the *American College Testing Program* (*ACT*) tended to be discriminate factors among persisting and non-persisting students. Since these scales appeared to be discriminate factors, it is recommended that each campus give serious consideration to the development of an intensive discriminate analysis program of their incoming student population utilizing the results of the *ACT* program. Furthermore, since significant differences were indicated between male and female students, it is recommended that this discriminate analysis program take into account these differences.

The academic non-persisting student appeared to enter the various universities with a significantly lower scholastic aptitude than did the non-academic non-persisting student. This significant difference may have definite implications for programs within the various universities if these universities hope to effect differentially the attrition rate. The results suggest that the assistance given to the academic non-persisting student may differ significantly from the service provided to the non-academic non-persisting student.

Many of the educational models that are found in higher education today are focused for the development of an "intellectual elite" with little consideration being given to the "push-out." Further investigation seems to be recommended on the basis of the findings in this study for identifying the sources within the educational models found within these state universities which provide for the differences in terms of scholastic aptitude among persisting and non-persisting students. The results of such further investigation would seem to have definite implications for such programs as attraction and selection of potential students, accelerated classes, advanced class placements, honors programs, and the development of individualized attention to the educational development of students who obviously have differences in terms of scholastic potential.

Diversity Among Persisting and Non-Persisting Students Among Campuses on the Basis of High School Achievement

A second area of investigation was to seek out differences among persisting and non-persisting students among campuses on the basis of previous high school achievement. The total student sample had participated in providing these data through responding to the American College Testing Program (ACT). The average grade achieved in high school as indicated by each student on this instrument was used as the estimate of previous high school achievement of the persisting and non-persisting students.

When persisting and non-persisting students were compared, persisting students tended to achieve a significantly higher grade average in high school than the non-persisting student. Furthermore, the academic non-persisting student tended to indicate a significantly lower average grade achieved in high school than either the non-persisting student who withdrew from the university for non-academic reasons or the persisting student.

Again, these results seemed to be in the expected direction. Persisting students appeared to enter their various universities with a significantly higher academic success pattern than did their non-persisting counterparts. Furthermore, the results of this investigation tended to indicate that all non-persisting students should not be pooled on the basis of previous high school achievement. Non-academic non-persisting students appeared to enter the various universities with a significantly higher academic success pattern than did the academic non-persister.

Comparisons were made between male and female students on the basis of the average grade achieved in high school in order to discern if there were any significant differences between these two student subgroups. Since significant differences had been identified among persisting and non-persisting students, separate analyses were made for the three categories of persisting and non-persisting students in order to determine the significance of any differences between male and female members of the student sample.

When the male and female students were compared, there were highly significant differences found between male and female persisting and non-persisting students in terms of their average grade achieved in high school. Based on the results of the investigation, the female student, regardless of the campus and persistence status, tended to achieve a higher grade point average in high school than did her male counterpart. These results are in the anticipated direction.

Since significant differences were found between male and female students as well as among persisting and non-persisting students, the total group was partitioned into six subgroups prior to the comparison of students among campuses.

Significant differences were found among campuses on the basis of mean scores achieved by female persisting and non-persisting students in terms of mean grade point achieved in high school. Based on these results, the mean grade point achieved in high school seemed to be a differential factor among female persisting and non-persisting students as well as among campuses.

Significant differences were revealed among campuses on the basis of mean scores achieved by male persisting and academic non-persisting students in terms of the mean grade point achieved in high school. However, there were no significant differences indicated among campuses on the basis of the mean grade point achieved in high school by the non-academic non-persisting student.

The following recommendations are made in view of the results of this investigation regarding previous high school achievement. Again, the order of recommendations is not on the basis of priority.

The results of this investigation indicated that the mean grade point achieved in high school tended to be a discriminate variable among persisting and non-persisting students. Based on these results, each campus should give serious consideration to the inclusion of this factor in their development of continued investigation of this factor as it relates to their respective educational programs. Furthermore, since significant differences were indicated between male and female students, these differences should be recognized in the development of further research.

The academic non-persisting student appeared to enter the various universities with a significantly lower academic success pattern than did either the persisting or non-academic non-persisting student. These results suggest that each institution should review its educational programs for the purpose of identifying the extent to which these programs take into consideration this differential and previous academic success.

Diversity Among Persisting and Non-Persisting Students Among Campuses on the Basis of College Achievement

A purpose of this investigation was to seek out differences among persisting and non-persisting students on the basis of college achievement. College achievement was defined in terms of the total number of credits earned, credits attempted, and grade points achieved by the persisting and non-persisting students among campuses.

Significant differences were found among female persisting students among campuses on the basis of credits earned, credits attempted, and grade points achieved. Furthermore, significant differences were indicated among male persisting students among campuses on the basis of credits earned and credits attempted. However, there were no significant differences revealed among male persisting students among campuses in terms of the total number of grade points achieved while enrolled in each of the respective institutions. Based on these results, college achievement as defined in this investigation seemed to be a differential factor among male and female persisting students among campuses.

There were significant differences revealed among male and female academic non-persisting students among campuses on the basis of credits earned, credits attempted, and total grade points achieved while enrolled on the respective campuses. Again, these achievement variables seemed to differentiate among academic non-persisting students among campuses.

According to the findings of this investigation, there were no significant differences found among female non-academic non-persisting students among campuses on the basis of mean number of credits earned and credits attempted. However, there were significant differences found among female non-academic non-persisting students among campuses on the basis of the mean number of grade points achieved while enrolled in the compared universities. There were no significant differences found among male non-academic non-persisting students among campuses on the basis of any of the college achievement variables used in this investigation. Based on these results, the mean number of credits earned, credits attempted, and grade points achieved while enrolled in the various universities did not seem to be a discriminate factor among male and female non-academic non-persisting students among campuses.

Based on these results, it is recommended that further investigation be conducted to attempt to account for the reasons for the variances among campuses on the basis of college achievement with particular attention being focused on the persisting and academic non-persisting student population. Such investigation may provide insight into institutional differences in educational policies and procedures. Obviously, such policies and procedures are of vital concern.

Further study seems to be indicated for the purpose of delineating the reasons that the mean number of credits earned, credits attempted, and grade points achieved in college by the non-academic non-persisting student does not seem to discriminate among campuses whereas these same variables do seem to differentiate campuses among persisting and academic non-persisting students.

Diversity Among Persisting and Non-Persisting Students Among Campuses on the Basis of Non-Intellective Characteristics

A fourth purpose of this investigation was to seek out the nature and extent of the diversity of personal non-intellective characteristics among persisting and non-persisting students. In order to achieve this purpose, persisting and non-persisting students were compared on the basis of personal non-intellective characteristics which were gathered through two major sources. Each persisting and non-persisting student had responded to the American College Testing Program (ACT) in which he had indicated his tentative decisions regarding educational major, vocational choice, vocational role preferences, and educational plans. After each persisting and non-persisting student had enrolled on his respective campus, data were collected regarding any change of academic major, place of college residence, and the size of high school graduating class. The summary of the findings and conclusions and recommendations resulting from these findings in this section of this investigation will be discussed in this order.

Since there appeared to be a significant difference with regard to the number of male and female students who either persisted or did not persist for academic or non-academic reasons, separate analyses were conducted for male and female students on the basis of non-intellective factors.

Differences Among Persisting and Non-Persisting Students on the Basis of Educational Major. There were significant differences indicated among male and female persisting and non-persisting students on the basis of educational major. Based on the results of this investigation, persistence seemed to be favored by an educational major that was consistent with the purposes of most of the institutions investigated. Students who planned to major in an area associated with the scientific fields seemed to persist more frequently than anticipated. Female students who intended to major in an area associated with the arts and humanities tended to persist more frequently than expected but male students tended to persist less frequently than anticipated. The results seemed to indicate that being undecided about an educational major may favor persistence among male students but not among female students.

Differences Among Persisting and Non-Persisting Students on the Basis of Vocational Choice. Male persisting and non-persisting students on all campuses were compared on the basis of their vocational choice. According to the results, there were no significant differences indicated among male persisting and non-persisting students. On the other hand, there were significant differences revealed among female persisting and non-persisting students on all campuses on the basis of vocational choice.

Based on these results, persistence within an institution seemed to be favored among students if they were planning on a vocation which is associated with the educational emphasis that is found in each of the five universities investigated. Persistence within the university did not seem to be favored by students who had elected a vocation which might be associated with the fields of engineering, agriculture, technology, or the arts and humanities. The data seemed to indicate that the female student who had elected a career in one of the various medical fields appeared to be found more frequently among those students who had not persisted for non-academic reasons. As was indicated in the results regarding the educational major, being undecided about a vocational choice seemed to favor persisting male students and not female students. Furthermore, the data tended to indicate that the undecided male or female student who does not persist probably gave reasons which would be classified as being non-academic.

Differences Among Persisting and Non-Persisting Students on the Basis of Vocational Role Preferences. Male persisting and non-persisting students on all campuses were compared on the basis of their vocational role preferences. According to the results, there were no significant differences between the observed and expected number of male persisting and non-persisting students within each of the vocational role preference categories. However, there were significant differences found among female persisting and non-persisting students on all campuses on the basis of their preferences for a vocational role.

Persistence seems to be favored among female students if they prefer a teacher/therapist role in their future vocation. This vocational role tends to be quite consistent with the goals of the five institutions investigated. Non-persistence tends to be favored if the female student prefers the vocational role which may be more closely aligned with practitioner, performer, or producer of services. Based on these data, persisting female students on all the campuses seemed to be more able to identify a vocational role preference. As was indicated with the analysis of the results dealing with the educational major and vocational choice of persisting and non-persisting students, being undecided about a vocational role preference does not seem to facilitate persistence among female students. The results seemed to indicate that the female student, if she is undecided about a vocational role preference, will probably not persist within the institution and might well be expected to withdraw for reasons other than those that might be related to academic concerns.

Based on the findings regarding the differences among persisting and non-persisting students with regard to educational major, vocational choice, and vocational role preference, it is recommended that each institution conduct further research for the purpose of discerning if there is a definite relationship between the academic emphasis of their institution and persistence among the student population. Each institution should address the following question: Does an educational major, vocational choice and/or vocational role preference of a student which is consistent with the academic emphasis of the institution enhance the probability of persistence in the institution? The factor of academic emphasis as this might be related to persistence in a university by a student seems to be a vital area for investigation because of the planned non-duplication of educational effort in each of the universities which participated in this study.

The relationship of being undecided about an educational major, vocational choice, or a vocational role preference to persistence within a university seems to merit continued research by each of the institutions which participated in the study. Each institution should attempt to discern if being undecided about an educational major and vocational choice favors persistence among male students but not among female students. The results of such an investigation would have definite implications for the development of academic advising and educational/vocational counseling for entering students on each of the campuses.

Differences Among Persisting and Non-Persisting Students on the Basis of Educational Plans. Male and female persisting and non-persisting students on all campuses were compared on the basis of their educational plans. Educational plans were defined as the anticipated educational degree to be obtained.

There seemed to be fewer male persisting students than anticipated who aspired to the receipt of the bachelor's degree but more non-persisting male students than expected who planned on the completion of the requirements for this degree. Persisting male students tended to be observed less frequently than expected among those students who did not anticipate the completion of the bachelor's degree. On the other hand, the male non-persisting student appeared more often than expected indicating that his educational plans included college but not the completion of the bachelor's degree.

The majority of the female students seemed to anticipate the completion of the bachelor's degree with the next greatest number of students being found in the categories of less than a college degree or the master's degree program. There appeared to be fewer female students than expected who indicated that they did not plan on completing their college program. On the other hand, there seemed to be more female non-persisting students than expected who revealed that they did not anticipate completing the four year program.

In general, persisting students seemed to anticipate the completion of the four years within any of the five institutions investigated as well as holding aspirations for graduate study. Male and female students who did not persist because of academic reasons appeared to anticipate their non-persistence since they reflected that they expected to attend college but did not aspire to the completion of the four years. Furthermore, very few of the male and female academic non-persisting students held the master's degree as an educational goal. The male and female students who did not persist because of non-academic reasons tended to reflect slightly higher educational aspirations since they appeared to be more likely to aspire to the master's degree than the academic non-persisters. However, the results seemed to indicate that such students may have serious questions about their persisting to the completion of the bachelor's degree and, if they aspire to the master's degree, they might be expected to have serious questions about the attainment of this educational goal.

The results indicated in the analysis of the differences among persisting and non-persisting students with regard to educational plans seemed to indicate the recommendation that further analysis be conducted to determine the role of educational aspiration as this relates to university academic persistence. The data revealed in this investigation appeared to indicate that the non-persisting student not only enters the various universities with a significantly lower scholastic potential than the persisting student but also carries with him a significantly lower aspiration level with regard to his educational plans. Each university should give careful consideration to conducting research to determine in what way the level of aspiration coupled with the scholastic potential materially effects the attrition rate on their campus. Also, if the aspirational level of the non-persisting student is a major factor in their attrition specific programs could be identified which might possibly provide for modification of the student's educational plans. For example, the student who has a rather unsuccessful academic pattern might well be unrealistic in establishing his future goals. The educational programs should afford such a student to become more realistically discriminate in his estimation of himself in relation to the goals. If the student were realistic about establishing his educational aspirations and these goals do not include the completion of the four year program, educational programs should be established which will afford the student an understanding of the alternate routes which will enhance his personal development.

Differences Among Persisting and Non-Persisting Students on the Basis of Change of Academic Major. In the comparison among persisting and non-persisting male students on the basis of change of academic major, there were no significant differences found among the three subgroups of persistence of male students. On the other hand, there were significant differences indicated among persisting and non-persisting female students in terms of a change of academic major.

There tended to be more female persisting students than expected who did not change their academic major while there were fewer female persisting students than expected who did change their major area of study. This same trend in results proved to be reflected with those students who did not persist because of non-academic reasons.

However, there were fewer academic non-persisting female students than expected who remained in one major area of concentration while there were more of these same students than expected who changed their academic major.

Based on these findings, persistence by female students seems to be positively related to a commitment to an academic major. These findings are quite consistent with those previously reported which tended to indicate that female students who had made a definite choice with regard to educational and vocational direction were favored to persist within the university. Female students who did not persist because of academic reasons will probably change their academic major and this tends to be equally consistent with the previous findings regarding the academic non-persister and his lack of a definite selection of an educational or vocational plan as well as a definite doubt with regard to commitment to the completion of the four years and the bachelor's degree.

Differences Among Persisting and Non-Persisting Students on the Basis of College Residence. There were significant differences found among persisting and non-persisting students enrolled on the five campuses investigated on the basis of their college residence. The results seemed to indicate that living in the campus residence hall tended to enhance the possibility of persistence. There seemed to be more students than expected who tended not to persist because of academic reasons who lived in a private housing arrangement or with parents and/or relatives. Conversely, there appeared to be fewer of these academic non-persisting students than expected who lived in a university residence hall.

According to the findings in this investigation there appeared to be fewer students than expected who did not persist because of non-academic reasons and who resided in a university-operated residence hall. In contrast, there seemed to be more of these non-academic non-persisting students living in college residences other than university residence halls with the greatest discrepancy noted with those students who were residing at home or with parents.

These findings suggest that further investigation be made in an effort to determine with greater clarity the relationship of persistence and college residence. The results presented in this investigation included all students from all campuses studied. Each institution should make a careful analysis of their individual situation and compare these results with those presented in this study to see if the direction of the findings is similar. Based on these results, further investigation should be made to determine what specific factors might be functional in a residence hall program that are significantly different from other college housing situations which might contribute positively to the persistence of the university student. While there is no reason to believe that the scholastic ability of the students in a residence hall situation was significantly different from those residing in other campus residences during the process of this investigation, further investigation should take into consideration this factor.

Differences Among Persisting and Non-Persisting Students on the Basis of Size of High School Graduating Class. Significant differences were found among persisting and non-persisting students on all campuses on the basis of the size of high school graduating class. There appeared to be more persisting students than expected who graduated from classes of 250 or fewer students while there were fewer persisting students than expected who graduated from classes of 250-750 students. Furthermore, there were fewer students than expected who did not persist because of academic reasons whose high school graduating class was

250 or fewer students while there were more of these academic non-persisting students than expected who graduated from classes of 250 students or more.

The results seemed to indicate that students graduating from a class of 250 or fewer students may be more likely to persist in one of the universities investigated than students who graduated from classes of 250 or more students. Also, if the student who graduated from a class of 100 or fewer students did not persist, it seemed likely to expect that his non-persistence was due to non-academic reasons.

These results tend to suggest that the size of high school class in which the student graduated may be a factor in terms of persistence within the five universities investigated. Each institution should conduct further investigation to discern the precise effect that the size of high school graduating class might have with regard to persistence within the institution. Again, this study did not account for the possible influence of scholastic aptitude. There may be reason to believe that the institutions are attracting or selecting students from the larger high schools who rank in the lower levels of scholastic aptitude and students from the smaller high schools who rank within the upper levels of academic potential. If this differential attraction were valid, the findings within this investigation would be better explained.

In summary, the objectives of this investigation were achieved. There is a diversity of characteristics among persisting and non-persisting students among campuses. These persisting and non-persisting students vary significantly from each other as do the campuses on which they are enrolled. The ACT data obtained on each student entering each of the institutions as well as selected post-matriculation variables seemed to differentiate among persisting and non-persisting students among campuses.

This investigation was initiated as an exploratory study to serve as an impetus to continued research in the area of educational development of students. This goal will be met only in the future and to the extent the cooperating institutions utilize the results from this investigation as guidelines for the development of hypotheses regarding their respective educational programs and the impact these might have on their students. The results of this investigation indicate there are significant differences among persisting and non-persisting students and if the institutions hope to effect rationally the attrition rate of their students as well as give explicit recognition to individual differences among students and campuses, then continued research is a necessity and not a luxury.

REFERENCES AND BIBLIOGRAPHY

1. Astin, Alexander W., "Some Characteristics of Student Bodies Entering Higher Educational Institutions," Journal of Educational Psychology 55:267-275, 1964.

2. Astin, Alexander W., Who Goes Where To College? Science Research Associates, Chicago, Ill., 125 pp., 1964.

3. Duncan, D. B., "Multiple Range Test for Correlated and Heteroscadistic Means," Biometrics 13:167-176, 1957.

4. Edwards, A. L., Experimental Design in Psychological Research, Holt, Rinehart, and Winston, New York, 1963.

5. Kauffman, J. F., "Student Personnel Services: Some Questions and Recommendations," Educational Record, Fall, 1964.

6. Knoell, Dorothy, "A Critical Review of Research on the College Dropout," The College Dropout and the Utilization of Talent, (Pervin et al., ed.), Princeton Univ. Press, 1966.

7. McConnell, T. R., A General Pattern for American Public Higher Education, The Carnegie Series in American Education, McGraw-Hill, 1962.

8. McConnell, T. R., "Diversification of American Higher Education: A Research Program," Educational Record 38:300-315, 1957.

9. Pervin, L. A., Reik, L. E., and Dalrymple, W., The College Dropout and the Utilization of Talent, Princeton Univ. Press, 1966.

10. Summerskill, J., "Dropouts from College," The American College, (Sanford, ed.), Wiley, New York, pp. 627-657, 1962.

11. Tseng, M., "Multiple Comparisons Among Treatments," Department of Human Resources, University of West Virginia, 1967, mim.

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TITLE

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RETRIEVAL TERMS

College persistence

College dropout

IDENTIFIERS

ABSTRACT The purpose of the study was to seek out the nature and extent of the diversity of the characteristics of persisting and non-persisting students within and among the various campuses of five state universities.

The total student sample (N = 7010) of the study consisted of the entire freshman class of 1965-66 who were enrolled on the campuses of the five state universities on a full-time basis. The sample was stratified into persisting, academic non-persisting, and non-academic non-persisting student categories for each of the participating campuses.

The results indicated that the various sub-scales of the American College Testing Program tended to discriminate between male and female and among persisting and non-persisting students within as well as among campuses. Previous high school schievement tended to be a discriminate variable between male and female and among persisting and non-persisting students within and among campuses. College achievement in terms of credits earned, credits attempted, and grade points achieved appeared to differentiate male and female persisting and non-persisting students within and among campuses. There were significant differences revealed between male and female persisting and non-persisting students on the basis of planned educational major, vocational choice, vocational role preferences, educational aspirations, number of changes in academic major, place of college residence, and size of high school graduating class.

The results were discussed with regard to their implications for further study of the persistence of the college student on the various campuses as well as for the educational programs among the five state universities as these might be related to persistence and attrition.